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AN EVALUATION OF THE STREAM POLLUTION CONTROL PROGRAM IN NEW JERSEY

Federal Water Pollution Control Administration
Metuchen, New Jersey

October 1966

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Hudson-Champlain & Metropolitan Coastal
Comprehensive Water Pollution Control Project
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AUTHORIZATION

Early in 1966, the Governor of New Jersey requested an evaluation of the existing Stream Pollution Control Program in New Jersey with recommendations for improving the effectiveness of the Program.

This evaluation and suggested legislation for revising the state's water pollution control program ~~has been~~ prepared in response to the Governor's request by the Hudson-Champlain Project of the Federal Water Pollution Control Administration.

ACKNOWLEDGMENT

Without the cooperation of the staff of the New Jersey State Department of Health, this evaluation could not have been prepared. By making time available for personal interviews, providing access to the files and supplying other data, the members of the staff made possible the acquisition of information which was the basis of this evaluation of the Stream Pollution Control Program. The assistance of these many people is gratefully acknowledged.

CONCLUSIONS

1. Although the existing statutes in New Jersey relating to water pollution control are strong and have been upheld in the highest courts of the State, the implementation of a water pollution control program has not kept pace with the problems.
2. The State Department of Health is, by statute, responsible for the control of all types of water pollution in the State.
3. The number of professional people on the staff of the Stream Pollution Control Program is not adequate either to meet the demands of current water pollution control problems or to carry out an effective control program.
4. Salaries for professional positions in the Stream Pollution Control Program are not sufficiently high to attract and hold people. The salaries are not competitive with adjacent states.
5. Due to an expanding population, technology and economy the workload required to carry out an effective water pollution control program in New Jersey has increased sharply in recent years. There has not been a corresponding increase in staff.
6. A recommended minimum total staff for the Stream Pollution Control Program is 85 persons, although 135 people would be desirable.
7. The main method for attempting to achieve pollution abatement is issuance of an order by the State Department of Health. However, some long delays have been experienced in attaining compliance with these orders.
8. Legal backup provided by the Attorney General's Office has been insufficient and frequently accompanied by long delays in the past. This service has improved in recent months.

9. Many sewage treatment plants are not operated and maintained at a satisfactory level of efficiency and many do not provide proper laboratory control operations.

10. A program of classification of streams and establishment of water quality standards is being carried out by the State Department of Health as an administrative tool to augment the basic stream pollution control statutes.

11. The State Public Sanitary Sewerage Facilities Act of 1965 has stimulated feasibility studies and preparation of plans for sewage disposal on a regional basis.

12. The State does not have a grant program to provide funds for sewage works construction grants or for sewage treatment plant operation and maintenance grants.

13. Many of the stream pollution problems in the State have existed for years without substantial corrective action.

14. The reputation or "public image" of the Stream Pollution Control Program is not favorable at the present time due to the many unsatisfied public demands for corrective action.

RECOMMENDATIONS

1. The State should adopt new legislation which would create within the State Department of Health, a State Water Pollution Control Board.
2. The State should authorize a program of sewage works construction grants to stimulate sewage works construction and permit the State to obtain maximum benefit from the Federal Grants Program.
3. The State should consider an operation and maintenance grants program to act as a stimulus for more effective sewage treatment plant operation.
4. To further stimulate feasibility studies and preparation of plans for sewage disposal on a regional basis, the State Public Sanitary Sewerage Facilities grants and loan program should be continued and expanded.
5. The State should complete classification of its streams so as to be able to conduct a vigorous enforcement program.
6. A comprehensive program of recruitment and increased salaries should be carried out to provide an adequate number of people in the water pollution control program.
7. Legal action in pollution cases should be carried out quickly and effectively.
8. A Deputy Attorney General with career status should be assigned to the Stream Pollution Control Program.
9. A strong effort should be made to improve public understanding of the stream pollution control program of the State.

EVALUATION OF THE STREAM POLLUTION CONTROL PROGRAM IN NEW JERSEY

History of Water Pollution Control in New Jersey

New Jersey tops the nation in density of population and ranks seventh in the number of persons employed in manufacturing operations. This heavy combination of people and industry creates problems in any attempt to maintain the quality of the more than 9,000 miles of waterways in the State. To keep ahead of the water pollution control needs calls for an aggressive, full-scale program.

Awareness of water pollution problems and the need for control measures in New Jersey date back to the 1800's. A report published in 1882 stated that the best possible method of waste disposal was to discharge the wastewater into the ocean or tidal river where there was no danger of its returning to the shores.

Legislative efforts in 1876, 1878, 1880 and 1893 attempted to create a basis for local police powers and penalties for stream pollution. No really effective measures developed from these efforts.

Dr. Elias J. Marsh, of Paterson, Chairman of the River Improvement Commission, described the State's water pollution control requirements in a report to the New Jersey Sanitary Association on December 12, 1896, as follows:

"The preservation of the proper quality of the water supply is of vital interest to all the citizens of the State, and the duty of protection belongs to the State, and should not be left to private individuals or local communities.

"Thus there are two provisions demanded: First, the remedy for a condition of existing pollution, and, second, the prevention of future pollution of pure streams. The former is more immediately urgent, but it is local and temporary,

while the latter is far-reaching and perpetual. When the condition of pollution is removed, the river will require protection to prevent a relapse. To effect these results, there will be needed efficient laws for the protection of the streams and the appointment of guardians to watch them and to enforce the laws." (1)

Dr. Marsh's views are still basic concepts in stream pollution control and probably were a strong motivating force for the passage of legislation only three years later.

The basic stream pollution control laws in New Jersey were enacted in 1899. At that time, three statutes were passed which provided for the protection of potable waters and the prevention of pollution.

The first enactment, the Potable Water Act, made the State Department of Health* responsible for controlling pollution of potable water streams in New Jersey. The act prohibited the discharge of polluting materials into a potable water stream except for the effluent of a waste treatment plant approved by and operated under the supervision of the Department.

The second law established the State Sewerage Commission and empowered it to control pollution of all waters of the State, including potable water streams. This commission was abolished in 1908 by legislative action and its powers and responsibilities were transferred to the Department of Health.

The third enactment of 1899, the State Sewerage Act, provided for injunctive relief when polluting material was discharged into the waters of the State.

Since these basic laws were established, other significant legislation has been passed to meet specific needs.

* Throughout this report the State Department of Health will be referred to as "the Department."

A 1913 statute required operators in charge of sewage treatment plants to obtain a license from the Department after passing an appropriate examination. A 1921 law required that a permit be obtained from the Department before a manufacturing plant could be located on a potable watershed of the State. Potable watersheds comprise 60 percent of the area of the State. This law has since been amended to include all watersheds so that it now makes it possible for the Department to anticipate and prevent industrial pollution.

In 1935, the Interstate Sanitation Commission was created by a compact of Connecticut, New Jersey and New York. It has responsibilities for pollution control in the coastal waters of the New York metropolitan area.

The Interstate Commission on the Delaware River Basin (Incodel), designed to control river pollution, dates from 1944 legislation. This Commission was superseded in 1961 by a compact which established the Delaware River Basin Commission comprised of the States of Delaware, New Jersey, New York and Pennsylvania, plus the Federal Government. The Commission has broad powers for controlling not only pollution, but also other river uses such as power generation, water supply and recreation.

In the latter part of the 1940's enactment of the Sewerage Authority Statutes authorized a county or municipality to create a Sewerage Authority to provide sewage collection and treatment on a larger scale than previously was possible by individual municipal plants. This law was amended in 1966 to permit two or more counties to create a sewerage authority.

In 1964, New Jersey started a stream classification program which is designed to establish water quality standards on the various individual watersheds of the State.

The State Public Sanitary Sewerage Facilities Assistance Act of 1965 is designed to encourage the planning, development and construction of multi-municipal or regional sanitary sewerage facilities by a State subsidy. The law authorizes the State to make grants for feasibility studies by two or more local governmental units and to make loans for the preparation of engineering plans and specifications for construction or expansion of sewage works.

Since its early days of pollution control, New Jersey has grown to a population of 6.8 million people. The population distribution is such that most of the people live in less than one-fifth of the State's 8,000 square miles. The rapid growth of New Jersey can be traced not only by its population increases but also by the increase in the number of waste treatment plants placed into operation.

An 1883 report describes waste treatment facilities at Asbury Park consisting of screening and holding tanks. In 1884, Atlantic City was provided with 15 miles of sewers and sewage treatment facilities to handle the wastes from 12,000 people. Long Branch completed a wastewater treatment facility in 1886.

By 1900, less than 50 municipalities had developed sewage collection systems totalling some 340 miles of sewers and serving approximately 700,000 people. Only 10 of these municipalities provided sewage treatment plants serving about 112,000 people.

By 1920 approximately 100 waste treatment plants of all types had been constructed and placed into operation. The number of municipal and industrial waste treatment plants increased to 190 by 1930; 240 by 1940; 295 by 1950; 390 by 1955; 550 by 1960; 725 by 1965; and over 750 by 1966.

The State issued 361 permits for the construction of new wastewater treatment plants in the five-year period of 1961-1965. This is almost 50 percent of the total number of plants existing in New Jersey. By the spring of 1966, approximately 6.5 million people in New Jersey were served by waste treatment and disposal facilities as compared with the 3.5 million people served in 1950. Almost every waterway in the State receives a portion of the 1.0 billion gallons of effluent discharged every day.

During the period prior to 1920 most of the treatment facilities installed were primary plants. In the period between 1920 and 1930 more emphasis was placed on secondary treatment with widespread use of chlorination. By 1925 chlorination was required at all plants on potable watersheds and in 1929 it became a requirement at all seashore plants.

In the late 1930's chemical coagulation came into prominence as an improvement in wastewater treatment.

One of the significant developments in waste treatment in New Jersey evolved in the 1950's with the introduction of the so-called "package plant." This type of facility was readily adaptable for realty subdivisions and small municipalities. Since these plants were considered expendable in some cases, they provided a means of treating waste on an interim basis until a regional system could be developed. During the period 1960-1965, seventy percent of the permits for new sewage treatment plants issued by the State Department of Health were for package plants. (2)

Summary of Existing Legislation

The New Jersey State Department of Health, is, by statute, responsible for the control of all types of stream pollution in the State. The basic stream pollution control laws provide generally for two types of enforcement

action: (1) a permit system; and (2) a police action.

Under the permit system, anyone (corporate entity or municipal entity) proposing to build a wastewater collection and/or treatment and disposal facilities must obtain a permit from the Department for the construction and operation of such proposed works. The design of the proposed works must be in conformity with formal rules and regulations established by the Department. New Jersey has had formal rules and regulations on such designs since 1913. These have been amended from time to time since their original enactment. The latest amendment became effective in 1965.

Under the police sections provided by the basic statutes, the Department is required to make inspections and investigations of stream conditions and of the operation of wastewater treatment and disposal facilities. The law in this respect is very broad. If the Department finds that any waters are being polluted or that any sewage treatment works are inadequate, it is required to issue an order requiring corrective measures. (3)

New Jersey's statutes on water pollution control have been tested and upheld in the highest courts of the State. They have been amended and supplemented over the years. A summary of present statutory regulations follows.

R. S. 58:12-2 State Sewerage Act (1899)

This act is the basic stream control law of New Jersey. It applies to all "waters of this state," which include "the ocean and its estuaries, all springs, streams and bodies of surface or ground water, whether natural or artificial, within the boundaries of this State or subject to its jurisdiction."

The law provides that the Department:

... Shall investigate the various methods of sewage disposal in order that it may be able to make proper recommendation in regard thereto.

... Shall require alterations, additions or improvements to sewage treatment works.

... Shall investigate all complaints of pollution of the waters of this State which shall be brought to its notice, and

... May inspect any of the waters of the State.

The law further provides that:

"If the department finds that any of said waters are being polluted in such manner as to cause or threaten injury to any of the inhabitants of this State, either in their health, comfort or property, or that any sewage treatment works are inadequate in capacity or unit design to properly care for, treat and dispose of sewage before an effluent from such works is discharged into any of said waters, it shall notify in writing any person, corporation or municipality found to be polluting said waters or owning, operating or controlling, separately or jointly, any such inadequate sewage treatment works, that prior to a time to be fixed by the department, which time shall not be later than five years from the date of the notice, the person, corporation or municipality polluting said waters must cease such polluting and make such disposition of its sewage and other polluting matter as shall be approved by the Department, and such person, corporation or municipality owning, operating or controlling inadequate sewage treatment works as aforesaid must alter, add to or improve such works in order that the sewage being received therein shall be cared for, treated and disposed

of, and the effluent discharged into said waters in a manner approved by the department."

Any person, corporation or municipality that receives orders from the Department as described above may appeal the order within three months. If it is not appealed it becomes final and the Department is empowered to obtain an injunction to enforce the order.

R. S. 58:12-3 (1899)

This section of the law provides that no sewer, drain, or sewerage system designed to discharge any sewage or other harmful and deleterious matter into the waters of the State, or any treatment plant for the treatment of sewage or other polluting substance from which the effluent is to flow into the waters of the State shall be constructed or operated except under conditions approved by the Department.

It is this law that enables the Department to establish rules and regulations relating to the design and operation of treatment works and also effluent and stream specifications.

This section of the act was amended in 1966 (Chapter 250) as follows:

"In reviewing plans submitted in compliance with this section and in determining conditions under which such plans may be approved, the department shall give due consideration to community development of comprehensive regional sewerage facilities in order to be assured insofar as is practicable that all proposed sewerage works shall conform to reasonably contemplated development of comprehensive community or regional sewage facilities."

R. S. 58:12-4 and 5 (1900, 1899)

These sections of the law permit the Department (1) to apply to the court of chancery for an injunction to prevent violation of the provisions of the Chapter and (2) to require that owners of sewage treatment plants

report on the operation of these facilities. Reports are required at least once a month on all treatment plants in the State.

R. S. 58:10-1 Potable Water Act (1899)

This law prohibits the discharge of any polluting material into any stream or to the banks of any stream comprising a potable watershed.

The Act is, in part, as follows:

"No excremental matter, domestic, factory, workshop, mill, gas house or slaughterhouse refuse, creamery or cheese factory waste, garbage, dyestuff, coal tar, sawdust, tan bark, or other polluting matter shall be placed in, or discharged into, the waters of, or placed or suffered to remain upon the ice or banks of, any river, brook, stream, or any tributary or branch thereof, lake, pond, well, spring or other reservoir, above the point from which any municipality shall or may obtain its supply of water for domestic use."

R. S. 58:10-10

This section of the law prohibits the effluent from any sewage disposal system or any plant for the purification or treatment of sewage or industrial wastes from being discharged into any of the potable waters of the State, which in the opinion of the department, is of such a character as will or may cause or threaten injury to the users of any such waters.

R. S. 58:10-17 (1921)

This section of the law requires that no factory, workshop, or place for the manufacture of materials or goods shall be located on any watershed in the State unless a permit is obtained from the Department.

R. S. 58:11-10 (1921)

This section of the law requires that no work upon the construction of changes, improvements, extensions or alterations to any water purification

or treatment plant, sewer system or plant for the purification or treatment of sewage or industrial wastes shall be begun until detailed plans and specifications have been approved by the Department, but the provisions of this section shall not be deemed to apply to changes, improvements, extensions or alterations to any sewer system or plant for the purification or treatment of sewage or industrial wastes located within the territory over which the Passaic Valley Sewerage Commissioners have jurisdiction.

Certification of Sewage Treatment Plant Operators

The Department has promulgated rules and regulations governing the examination and licensing of superintendents or operators of Public Water Treatment Plants, Public Sewage Treatment Plants, and Public Water Supply Systems. These rules and regulations have been established in accordance with authority vested by Chapter 177, Laws of 1947.

R. S. 26:1A-26

This law pertains to the abatement of nuisances. The Commissioner of Health is authorized to issue an order to a local Board of Health for the abatement of a nuisance, such as an overflowing septic tank.

R. S. 40:1-16 Order of Necessity

This law comes into use when a municipality is unable to finance a required sewage works where the bonded indebtedness would be exceeded. A hearing is held and if the project is certified as essential for reasons of public health the municipality can be legally permitted to exceed its bonded indebtedness to correct pollution.

R. S. 40:14A-1 et seq Sewerage Authorities Law (1946)

This act made it possible for a county or municipality to create a

sewerage authority. The law was amended in 1966 (Chapter 249) to permit two or more counties to form such an authority.

Stream Quality Standards

New Jersey has established a stream classification program under the provisions of R. S. 58:12-3. In August 1964, the Department promulgated formal rules and regulations, including water quality criteria, establishing classifications to be assigned to the waters of the State. These rules and regulations constitute the basis for classification of the various individual watersheds. The classifications are administrative tools designed to augment the existing statutes.

Classifications for each river basin are proposed by the Department based on recommendation made by an inter-departmental committee established by the Department and the State Department of Conservation and Economic Development. Following public hearings, formal classifications are issued for each major watershed area in the State.

After classification, the Department promulgates regulations specifying the minimum degree of treatment required to comply with the classifications and issues appropriate orders against violators.

State Public Sanitary Sewerage Facilities Act of 1965

This act authorizes the Commissioner of Health to make grants and loans to local governmental units for the preparation of feasibility studies and reports and engineering design of public sanitary sewerage facilities. The law declares it is the public policy of the State "to encourage and support, as hereinafter provided, the promotion, planning, development and construction of public sanitary sewerage facilities, including collection,

transmission, treatment and disposal works on a regional or multi-unit basis."

Grants are authorized for the purpose of preparing feasibility studies and reports on projects for the collection, treatment and disposal of sewage involving two or more local governmental units, acting together on a joint basis.

Loans are authorized for the preparation of preliminary engineering plans and detail design and engineering drawings and specifications and contract documents for the construction of a new, or expansion of an existing, sewerage facility for the collection, treatment and disposal of sewage in a local governmental unit or units; provided a feasibility study or report upon such facility has been filed with and approved by the Commissioner.

This act became effective July 1, 1965 with $1,000,000 appropriated for carrying out the grant and loan provisions. An additional $4,000,000 was appropriated for Fiscal Year 1967.

Chapter 205, P. L. 1966 - County Sewerage Financing Law

This law, passed in 1966, permits counties, separately or jointly with municipalities located within the county (1) to construct or acquire sewage disposal facilities or sanitary sewers, (2) to operate such facilities, and (3) to furnish the services of these facilities to any municipality within the county.

The law also authorizes a county (1) to issue general obligation bonds to finance the construction or acquisition of such facilities, (2) to fix and collect fees for the facilities and services furnished, (3) to accept grants and gifts, and (4) to enter into contracts and carry

out other business necessary to the operation of these facilities.

This law is designed to supplement the "Sewerage Authorities Law" but it specifically restricts a county from establishing any sewage disposal system which would be competitive with a county sewerage or municipal utilities authority established previously under existing legislation, without the consent of such existing authority.

Comment - The above described statutes are very broad and strong. Such simple, powerful laws probably could not be passed today. The statutes confer upon the Department the power to establish rules, regulations, and conditions under which sewers and treatment plants may be constructed and operated. They confer upon the Department power to set standards for qualification and licensure of the people who supervise such plants. The Department is vested with considerable power in moving against offenders. It can institute actions for injunctive relief in the courts. Because of these broad powers conferred by the statutes, it appears that much is left to the judgment of the Department. The aggressiveness (or lack of it) in carrying out a stream pollution control program in the state is largely a function of the attitude of the State Commissioner of Health and the people working for him in the program.

Although the law requires that an operator of a treatment plant be licensed by the State, in fact there are not enough licensed operators available to staff all the treatment plants. It is common practice for a licensed operator to assume responsibility for one or more treatment plants which has an unlicensed operator in direct charge of operations. The degree of supervision provided by the holder of the license is variable, depending on the individual involved. It is important that plants operated under an

arrangement of this type be inspected frequently to insure that adequate operation and supervision are being maintained.

Summary of Experience in Last 10 Years

Organization

The present Stream Pollution Control Program* was established as a unit in the Division of Environmental Health by Executive Order No. 2 dated September 19, 1960. Under the reorganization plan and within the next two years, many of the pollution control functions formerly carried out in the districts were moved to the central office.

The Assistant Director, Division of Environmental Health, was assigned responsibility for the Program with specific responsibility for development of a state plan for sewage and industrial waste disposal on a drainage basin basis.

A Supervisory Public Health Engineer was established as program coordinator.

The Program was organized into four sections - Project Review; Federal-State Assistance Program; Special Control; and Drainage Basin Control. Within the Drainage Basin Control Section the State was divided into four basins - Atlantic; Raritan - I.S.C.; Delaware; and Passaic-Hackensack. A principal Public Health Engineer was placed in charge of all stream pollution control activities in each assigned basin.

The other sections were established to provide supporting services. Projects Review handles the review and approval of all municipal and industrial wastewater projects. It checks the proposed projects for conformance with the State's "Rules and Regulations for the Preparation and Submission of Plans for Sewer Systems and Wastewater Treatment Plants," and issues permits for approved projects.

* Throughout this report the Stream Pollution Control Program will be referred to as "the Program." The name is now in the process of being changed to Water Pollution Control Program.

The Federal-State Assistance Program Section coordinates all grant and loan programs as they relate to sewage works construction and feasibility studies.

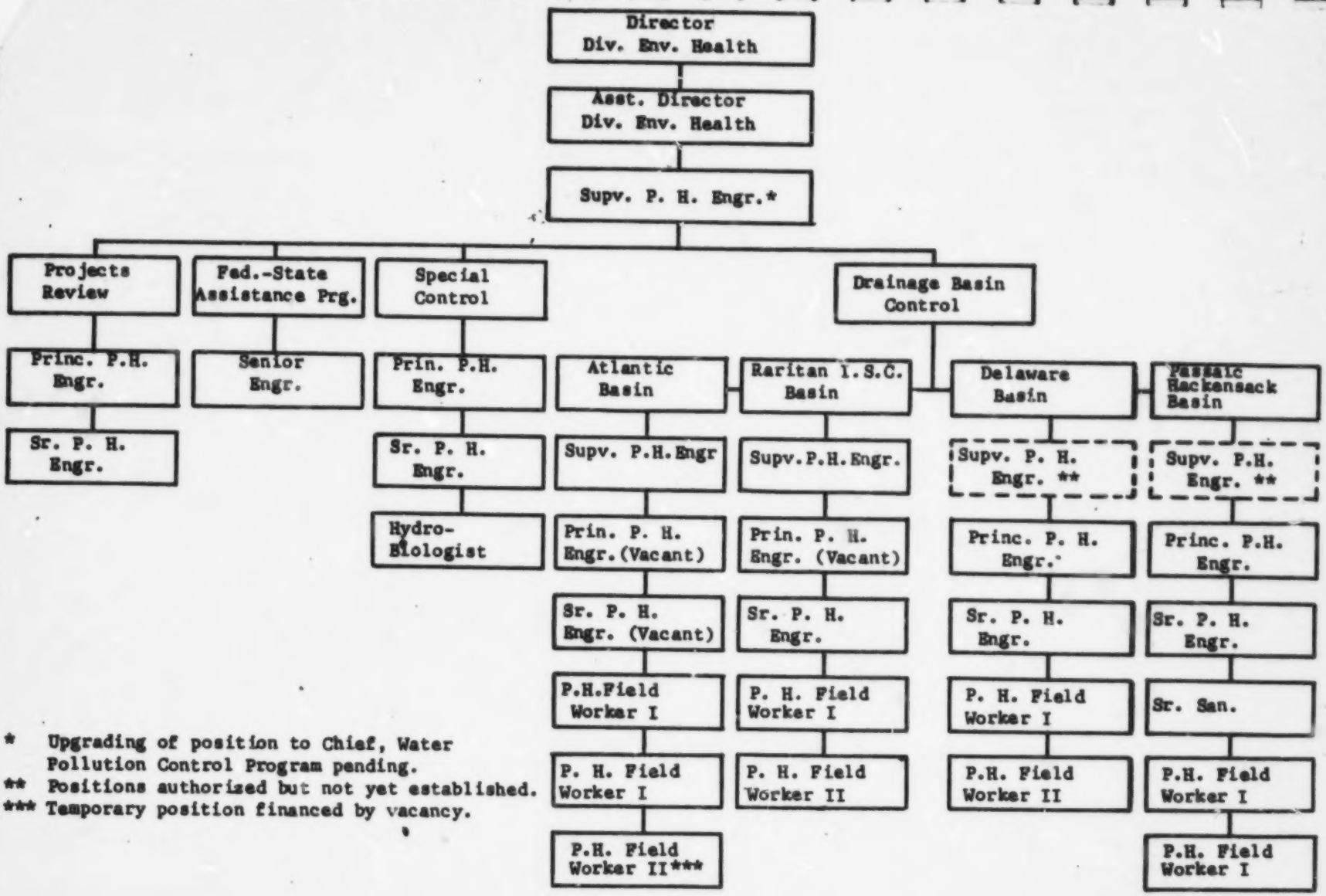
The Special Control Section acts as consultants to the drainage basin engineers on special problems, such as, industrial wastes, aquatic weeds, etc. The Section also handles major, long-term industrial wastes problems.

The current organizational chart is shown in Figure 1. The salary ranges for the various grades are shown in Table I.

TABLE I

Stream Pollution Control Program Salaries

Grade	Salary Range
Public Health Field Worker II	$ 4,104 -$ 5,334
Public Health Field Worker I	5,237 - 6,809
Public Health Engineer	6,684 - 8,688
Senior Public Health Engineer	7,737 - 10,059
Principal Public Health Engineer	8,957 - 11,645
Supervisory Public Health Engineer	10,369 - 13,477
Chief, Water Pollution Control Program(Pending)	12,300 - 15,603
Asst. Director, Div. Environmental Health	13,233 - 17,205
Director, Div. Environmental Health	15,320 - 19,916



* Upgrading of position to Chief, Water Pollution Control Program pending.
** Positions authorized but not yet established.
*** Temporary position financed by vacancy.

Figure I - Organization Chart
Stream Pollution Control Program

Comment - The reorganized program apparently helped to consolidate and improve the efficiency of the Program. The principal Public Health Engineers are able to become familiar with the problems within their assigned river basins, rather than having their efforts spread across the State.

The organization as it now stands is a "shallow" one in that it does not provide much of an ascending line of promotional positions. Engineers with a Bachelor's Degree and no experience are recruited at the Public Health Engineer level with a salary range of $6,684 - $8,688 over a 5 year period. Experience at filling these positions has been poor and essentially no engineers are hired at this grade. Engineers with a Master's Degree, or Bachelor's Degree with one year experience, are brought into the organization as Senior Public Health Engineers. This position has a salary range of $7,737 - $10,059 over a 5 year period, but the starting increment can be adjusted upwards for additional experience or education.

From Senior Public Health Engineer, an engineer can progress to the position of Principal Public Health Engineer. This position has a salary range of $8,957 - $11,645 over a 5 year period.

A position of Regional Engineer was proposed for the engineer who heads up each river basin program with a salary range of $9,800 - $12,800. A recent change in the organizational plan converted this proposed position of Regional Engineer to the level of Supervisory Public Health Engineer with a salary range of $10,369 - $13,477. Two of the Principal Public Health Engineers have been promoted to these positions.

Another change now pending would convert the position of program

coordinator, which up to now has been a Supervisory Public Health Engineer, to a position of Chief, Water Pollution Control Program. The proposed salary range for this position is $12,300 - $15,603.

While these changes are a step in the right direction, the organization still does not provide much of an incentive for a young engineer in the way of promotional possibilities or the challenge to grow professionally.

Assuming an engineer enters the organization at the Senior level, there are basically only two promotions available to him - Principal and Supervisory Public Health Engineer. Since the Chief, Water Pollution Control Program and the Assistant Director's positions would probably be vacated only by retirement, the Supervisory Public Health Engineer position is essentially as high as an engineer can move.

By comparison, the New York State Health Department has sanitary engineer positions at the grades of Junior, Assistant, Senior, Associate and Principal levels. Starting positions at the Junior level are offered to graduate engineers with a Bachelor's Degree. Salary ranges for the various levels are shown in Table II. These ranges apply over a 4 to 5 year period.

TABLE II

New York State Health Department Salaries

Grade	Salary Range
Junior Sanitary Engineer	$ 7,370 - 8,590.
Assistant Sanitary Engineer	9,194 - 10,670.
Senior Sanitary Engineer	11,332 - 13,080.
Associate Sanitary Engineer	13,500 - 16,050.
Principal Sanitary Engineer	16,655 - 19,590.

Similarly, the Division of Sanitary Engineering, Pennsylvania Department of Health has sanitary engineer positions at six levels. Salary ranges and qualifications required are shown in Table III. These salaries have been recommended to become effective in January, 1967.

TABLE III

Pennsylvania Department of Health Salaries

Grade	Qualifications Required	Salary Range
SE I	Bachelor Degree in Engineering	$ 7,772 -$ 9,454
SE II	Bachelor Degree in Engineering 1 Year Experience	8,580 - 10,954
SE III	Bachelor Degree in Engineering 3 Years Experience	9,923 - 13,301
SE IV	Bachelor Degree in Engineering P. E. License 5 Years Experience	12,075 - 16,170
SE V	Bachelor Degree in Engineering P. E. License 6 Years Experience	13,301 - 17,839
SE VI	Bachelor Degree in Engineering P. E. License 7 Years Experience	15,387 - 20,629

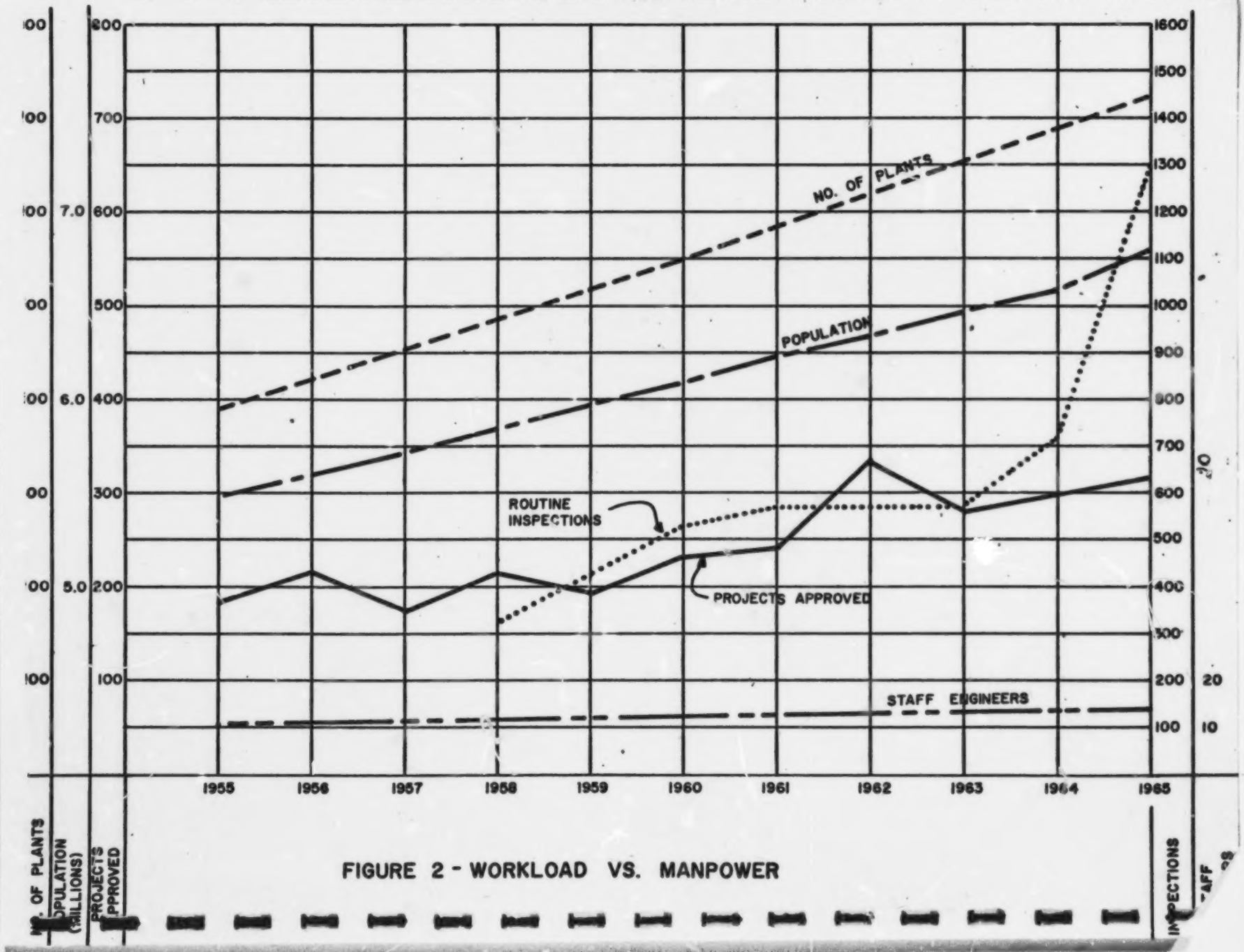


FIGURE 2 - WORKLOAD VS. MANPOWER

increase has been primarily in the technician grades.

In a paper presented before a professional association meeting in 1964, one of the engineers in the Program made the following statement: "New Jersey's Program needs qualified professionally trained and scholastic discipline people to carry on this (stream pollution control) work. It may astound you to learn that a quarter of a century ago there were more qualified professional people employed by the Department who were directly involved in stream pollution control work than we have with us at this very moment. There are more policemen employed by the city of Burlington with a population of less than 15,000 than there are engineers and technicians employed by the Department in stream pollution control work. We have experienced a vast increase in workload and responsibilities to the public." (3) The situation in terms of the number of personnel had not markedly changed until recent months since this statement was made in 1964.

Comment - The need for a major increase in the number of professional people on the staff of the stream pollution control program is evident from the workload that exists today. Figure 2 compares the increase in population, number of treatment plants, number of routine inspections, and number of projects approved with the number of engineers on the staff of the Program.

The number of wastewater treatment plants in operation has grown to over 750. The number of people served by waste treatment and disposal facilities has grown to 6.5 million, approximately twice the number served in 1950. There are many other factors which could be cited to point out the sharp increase in workload which has taken place in the State. Unfortunately, this increase in workload has occurred without a corresponding increase in personnel.

The Program has a suggested schedule of four inspections per year at each waste water treatment plant in the State. In 1965, an average of less than one inspection per plant was made. Some plants were inspected once or twice, but many of the plants in the State received no inspection at all. As an example we might assume that an engineer could inspect two plants a day for four days a week, allowing the fifth day for report preparation. Based on the 750 plants and the desired four inspections per year, it would conservatively require approximately eight men just to carry out the inspection program on the waste water treatment plants. With the present staff it is not possible to come anywhere near achieving this desired inspection frequency.

The staff of the Hudson-Champlain Project of the Federal Water Pollution Control Administration has maintained surveillance over many of the sewage treatment plants within the project's study area. These inspections have shown that the operation and maintenance of many of these plants is below what would be considered a satisfactory level. Reasonable laboratory facilities to provide operational control are not provided at many plants. In many cases, the operators do not have the knowledge to run basic laboratory control tests or to interpret the results of these tests to monitor the efficiency of the treatment plant operation. The net result of poor operation and maintenance is that a sewage treatment plant does not operate at its designed efficiency and the resulting effluent is of poorer quality than that which should be attained. This has the result of lowering the quality of the receiving waters. An increased plant inspection program would help to improve plant operation and maintenance.

The State requires that reports on the operation of the waste treatment plants be submitted on a monthly basis. The information required on the monthly report form has been reduced to a bare minimum, but even so it is doubtful that any meaningful review and follow-up action is possible, if 750 forms a month are received. If all these monthly forms were received as required, an automatic data processing system could be used effectively to record and screen the monthly reports. At present, the Program does not make any use of automatic data processing equipment.

A study carried out in 1964 by a private consulting management firm was designed to develop staffing and budgetary guidelines for State Water Pollution Control Agencies. Staffing needs were developed based on a series of factors which included: total population; population density; percent urbanization; land area; water area; recreational use of waters in the State; and industrial use of waters in the State. Considering all these factors, the guidelines developed recommended that New Jersey provide for its Stream Pollution Control Program a minimum total staff of 86 persons although 133 people would be desirable. This total is based on a ratio of non-professional people to total staff of 31 percent. In order to carry out a program of this type the report suggested for New Jersey a minimum budget of $950,000 and a desirable budget of $1,475,000. (5)

Although New Jersey has experienced a tremendous growth in the number of people and waste water treatment plants, the personnel level until recent months has remained substantially the same as it was 25 years ago. The present staff of approximately 32 is far smaller than

suggested for a State of this size and needs to be increased extensively if an adequate program is to be carried out.

Operation

As indicated by the summary of existing laws relating to stream pollution control in the State of New Jersey the Program is involved in a great many activities. The following outline from the Department's Program Plan describes the major activities.

Program Objective and Activities (6)

1. Plan.

   Plan for the development of regional sewerage facilities with emphasis on valley or drainage basin concepts.

   a. Work closely with State, County, Municipal, Regional Officials and voluntary agencies having interests or responsibilities in water pollution control planning and development.

   b. Initiate and participate in conferences, meetings, etc. to stimulate constructive discussion and thought for such planning.

   c. Utilize all available resources to encourage or initiate intermunicipal, regional sewerage planning where indicated.

   d. Apprise local health and other officials of program concepts.

2. Evaluate needs.

   Evaluate periodically the need for additional or new administrative stream pollution control measures by means of:

a. Legislation

b. Rules and Regulations

c. Policies

3. Examine proposals.

a. Review engineering plans, etc., on proposed sewerage projects; report upon same; issue permits for construction and operation if data complies with Department requirements.

b. Review applications for Federal grants for construction of sewerage projects; establish project priority under Department criteria; and, issue required certification and other procedural documents as required by Federal authorities.

c. Review applications for establishment of factories of workshops; issue permits.

4. Maintain surveillance and make investigations.

a. Make regular surveillance, follow-up, "as built" and special inspections of sewage and industrial waste treatment plants; investigate area-wide failures of individual sewerage facilities.

b. Establish, and from time to time amend, a state-wide network of stream sampling stations with emphasis upon the valley concept.

c. Collect samples from each sampling station at least quarterly and maintain a continuous log of the laboratory analyses of the samples for each station.

d. Make special surveys of surface waters.

e. Review monthly operating reports on sewage and industrial waste treatment plants.

f. Investigate local problems related to individual sewage disposal.

5. Take legal action.

a. Issue orders requiring:

1. Stream pollution abatement.

2. Treatment plant alterations or expansion.

3. Improvement of treatment plant operations.

4. Attendance to duties by sewage treatment plant operators.

5. Abatement of nuisances due to inadequacies of individual sewage disposal facilities.

b. Prepare orders of necessity to permit financing if needed, for community sewerage facilities.

c. Recommend other legal actions where indicated.

Legal Action

As indicated in 5. a. above, the issuance of orders is one of the main measures used for attempting to achieve pollution abatement. Personnel in the Stream Pollution Control Program have indicated that 80 to 90 percent of the cases are resolved by this method. These orders generally carry a minimum deadline of three months, since the law permits the recipient of an order to appeal to the courts within a three month period. Deadlines of up to one year are used in cases where a major corrective effort will be required. The law requires that not more than five years be allowed for correcting the pollution, but this time limit has not always been met.

If no action is taken in compliance with an order, the case is referred to the State Attorney General's Office with supporting data and a request that necessary court action be initiated.

Basically there are four types of cases in which the State issues orders:

1. A simple case where there is a violation and the Department issues an order pursuant to the provisions of R. S. 58:12-2 requiring the offender to cease pollution or make other corrective measures.
2. The Department issues orders requiring that regulations established prior to classification be met.

   Example - The City of Camden, located on the Delaware River Estuary. Although the waters of the Delaware Estuary have not yet been classified by the Department, it has issued "Regulations concerning secondary treatment of domestic wastes separately or in combination with industrial wastes discharged into the tidal waters of the Delaware River Estuary." Based on these regulations, an order was issued to the City of Camden requiring them to alter, add to, or improve the sewage treatment works to comply with the regulations.
3. Orders are issued following classification of the receiving waters, but prior to promulgation of regulations setting minimum treatment.

Example - The Town of West New York, New Jersey. The waters of the Hudson River, Arthur Kill, and tributaries have been classified but regulations setting minimum acceptable treatment limits have not yet been established. Accordingly, the order issued is as follows: "notice is hereby given by the State Department of Health of the State of New Jersey, pursuant to R. S. 58:12-2, to the Town of West New York, in the county of Hudson and State of New Jersey, requiring that the said town of West New York must and shall, prior to December 1, 1966, cease the discharge of improperly, inadequately and insufficiently treated sewage into the waters of the Hudson River, being waters of this State, and must alter, add to, or improve the sewage treatment plant operated by the said town of West New York in order that the sewage received therein shall be cared for, treated and disposed of and the effluent discharging into the said waters in a manner approved by the State Department of Health of the State of New Jersey, and in order that the treatment and disposal of said effluent shall meet the applicable standards of water quality prescribed by regulations of the State Department of Health entitled, 'Classifications of the Surface Waters of the Hudson River, Arthur Kill, and tributaries,' effective May 16, 1966."

4. An order is issued following classification of the waters and to meet adopted regulations defining the minimum acceptable degree of treatment.

Example - The Raritan River Basin. The State Department of Health has classified the waters and adopted regulations governing the minimum degree of acceptable treatment in the basin. Orders were issued to the municipalities, sewerage authorities, and industries involved requiring that they "alter, add to, or improve sewage treatment works owned and operated by them in order that the sewage being received therein shall be cared for, treated and disposed of, and the effluent discharging into the waters of the Raritan River Basin shall be in such manner as approved by the State Department of Health in order that the waters receiving said effluent shall conform to the standards of quality established therefore by the State Department of Health."

Comment - The basic stream pollution control laws of the State of New Jersey are simple and direct. Accordingly, the Program has great powers of discretion which it can use in the issuance and follow-up of its orders. In some cases the issuance of an order results in a prompt compliance with the order. This is particularly true in the relatively simple cases where an offender is not required to make a major change or spend a large sum of money to comply with the order. For the more complex cases, the issuance of orders has met with varying success. Many cases have had to be referred to the Attorney General. Unfortunately, a pollution case may continue for an extended period of time before the Department concludes that more drastic action is required. Even when a case is referred to the Attorney General there can be a long delay before court action results.

In one sense many of the orders issued seem unrealistic in terms of the time specified for compliance with the order. As an example, in the above mentioned case of the City of Camden, the order was issued on April 19, 1966, requiring that on or before August 15, 1966, the city alter, add to or improve its sewage treatment works to provide secondary treatment. Similarly, an order issued to the Middlesex County Sewage Authority, dated February 18, 1966, ordered the authority on or before June 1, 1966, to alter, add to or improve its sewage treatment works in order that the effluent shall conform to the standards of quality established by the State Department of Health. In this case, treatment was specified as a minimum of 80 percent reduction of biochemical oxygen demand.

Since it is impossible to provide secondary plants of the size required in four months, at the best the recipient of the order could merely acknowledge receipt of the order and negotiate with the Department on a timetable for complying with the order. It would seem that a more logical approach would be for the order to specify the ultimate goal desired, and set a maximum time by which the treatment works or other corrective measures must be completed and in effect. A step-by-step timetable could then be worked out which would specify dates for completion of plans, arrangements for financing, start of construction, and completion of the treatment works. Failure to meet any specified date of the timetable could be cause for court action. In this way the progress of a project can be controlled and it would not be necessary to wait until the final deadline to determine that a violator is in default of the orders.

The Rahway Valley Sewerage Authority was issued orders on January 22, 1963, requiring that it cease discharge of improperly treated sewage by January 27, 1964. The Authority replied to the Department on July 15, 1963,

and on February 14, 1964, but it was not until September 24, 1964, that it wrote the Department and laid out a timetable for compliance. The timetable suggested that facilities would be completed by the winter of 1968, or four years after the January 1964 deadline originally set.* It appears that the issuance of orders is merely a means of starting negotiations with a polluter for compliance rather than a firm order for correction.

A review of the files indicates that many of the deadlines specified in official orders are past with no follow up on the part of the Program. In the period of 1954 through 1965, an average of 16 orders were issued per year. In 1966 through the month of August, 52 orders were issued. This relatively large number was due to the stream classification program and the issuance of orders to all the treatment plants on a river basin where the stream had been classified.

Cases referred to the Attorney General's Office for action are relatively few in number. In 1960 and 1961, three cases were handled each year. In 1962, five court actions took place. In the period of July 1963 thru June

* Many of the facts reported herein have been obtained directly from the files of the Stream Pollution Control Program. It should be pointed out that at the time of the program moved to its new quarters, all of its files were purged with the intent of consolidating the records so that they would require less storage space. The files were purged by the Engineers on the staff and the purging was designed to eliminate relatively unimportant letters and other memoranda containing such information as confirming a speaking engagement, transmitting an informational brochure, acknowledging a request for information, etc. However, a perusal of the file shows extensive gaps in information indicating that the purging was carried out rather drastically. Therefore, it is impossible to determine accurately in many cases the true sequence of events that may have taken place. Also there were undoubtedly many personal and telephone contacts with municipal officials and industrial representatives which are not reflected in the files and yet may have had an important bearing on the progress of any particular case. Accordingly, any case histories discussed herein should be considered in light of the fact that the files which provided the data may be incomplete.

of 1966, 52 court actions were handled.

Personnel of the Program have indicated that in the past service obtained from the Attorney General's Office and the results achieved have been relatively poor. However, this service has improved during the past six to eight months, possibly as a result of increased public interest and public pressures on pollution control problems. One notable case is that of the Whippany Paperboard Company. The Commissioner of Health wrote to the Deputy Attorney General on April 12, 1955, requesting action to enforce compliance with a previously issued order. This case dragged on for years and it was not until April 25, 1966, that a consent judgment was signed.

One problem that apparently has existed is that the Deputy Attorney General assigned to the Program is usually young, inexperienced, and may only remain on the job for a year or so before moving on to another assignment or leaving the Department to go into private practice. As a result there has been very little continuity in the support provided by the Attorney General's Office. By the time a deputy assigned to the Program had become familiar with the technical details of the Program and gained experience which began to make him valuable to the Program, he would leave. A new man would then be assigned and the orientation program would have to start over again.

It would seem that the Stream Pollution Control Program is sufficiently important to justify the assignment of an experienced person on the Attorney General's staff to the Program. This should be a career man with the State so that continuity for the Program would be maintained.

It is interesting to note that the Order issued against the Town of West New York makes no reference to the Federal Enforcement Conference held in September 1965 relating to the pollution of the Hudson River.

The conferees agreed that a minimum of secondary treatment plus effective disinfection would be acceptable in the Hudson River waters. It would seem appropriate for the Department's Order to cite the conference requirement for secondary treatment to utilize every available device to assure compliance.

Classification

The Department is now in the process of classifying its streams and establishing water quality standards in these waters. The "Regulations Establishing Certain Classifications to be Assigned to the Waters of this State and Standards of Quality to be Maintained in Waters so Classified" were filed with the Secretary of State in August 1964 and became effective on September 1, 1964. The regulations establish classifications for both fresh and tidal waters. In each group various classes are established, depending on water use, and appropriate criteria are specified to meet the requirements of these classes.

The classification process takes place in five steps:

1. A proposed classification of the waters is developed by the Inter-Departmental Committee on Stream Pollution Control Problems consisting of representatives of the Department and the State Department of Conservation and Economic Development.
2. The proposed classifications are considered at a public hearing where testimony is received from all interested parties and objections to the proposed classifications can be filed.
3. The Department, after considering all the statements submitted at the hearing and subsequent to the hearing, promulgates regulations on the classification of the waters.

4. The Department promulgates regulations covering the treatment of waste water discharged into the waters under consideration. These regulations are designed to provide a minimum degree of treatment which will be consistent with the previously established stream classifications.

5. Orders are issued to the various parties involved requiring that treatment be established to conform with these previously promulgated regulations concerning treatment of the waste waters.

Following promulgation of the classification regulations in 1964, the Department has been conducting hearings on a progressive basis on the river basins of the state. The first to be classified was the Raritan River Basin including Raritan Bay. A hearing was held by the Department on December 8, 1964, to consider the proposed classifications of the basin. Regulations concerning the classification of these waters were promulgated on April 15, 1965. Regulations on the treatment of waste waters in the basin were promulgated effective February 1, 1966 and orders were issued to the various municipalities, authorities and industries involved on February 18, 1966.

The second river basin to be classified was the Hackensack. A hearing on the proposed classification of the basin was held on July 15, 1965. Regulations concerning the classification were promulgated with an effective date of March 1, 1966.

The surface waters of the Hudson River, Arthur Kill and tributaries were the next to be considered by the State. The hearing was held on the proposed classifications on February 15, 1966, and the regulations concerning the classification were promulgated with an effective date of May 16, 1966.

Proposed classification of the surface waters of the Passaic River Basin

was considered at a hearing held on May 19, 1966. The regulations concerning the classifications were promulgated effective September 15, 1966. The Department is currently developing regulations on treatment to conform with the classification.

Two main basins, the Atlantic Coastal and the Delaware River Basin, remain to be classified. The Department has tentative plans for completing the classification of these basins by Spring of 1967. It has indicated that it will not hold its own hearings on the classification of the Delaware Estuary. Instead the Department will accept the standards established by the Delaware River Basin Commission.

Comment - Classification is an administrative tool being used by the Department to augment its basic statutes. The classification system as such is not being carried out through direct legislative action but is based on the existing laws relating to pollution control activities. To date no challenge has been made of the classifications system but such a challenge is a possibility and would result in a test of the system in the courts.

It should be noted that all the hearings held to date on the stream classification by the Department have been held in Trenton during the daytime hours. It would be more appropriate, if the hearings were held within the river basin under consideration at some central point and were scheduled for a time, possibly in the evening, that would permit a greater number of interested persons to appear at the hearing and present testimony on the classifications.

The Federal Water Pollution Control Act as amended now requires that the State establish water quality standards on interstate waters. The Federal Act required that each State file a letter of intent with the Secretary of the Department of the Interior, by October 2, 1966, indicating

that it intends to comply with the Federal Act by establishing suitable water quality standards on the interstate waters. The standards must be established, following appropriate hearings, by June 30, 1967, and submitted to the Secretary of the Department of the Interior for his approval.

The State of New Jersey has filed the required letter of intent with the Secretary and as discussed above is in the process of classifying its streams and establishing water quality standards on these waters. The classification process and implementation of the standards established represents a sizeable increase in the workload imposed on the staff of the Program.

Grants and Loan Programs

The Program includes a section for handling Federal-State assistance programs. Under the provisions of the State Public Sanitary Sewerage Facilities Act of 1965, monies are made available for grants for feasibility studies and loans for preparation of plans. For Fiscal Year 1965-1966, $1 million was appropriated to carry out this program. By the end of December 1965 all of the funds had been allocated. Eleven applications had been approved for feasibility study grants for a total of $286,000. Commitments had been made for 10 loans totalling $714,000.

For Fiscal Year 1966-1967, $4,000,000 was appropriated to administer the financial assistance program. Of this amount $1,000,000 was set up for grants for feasibility studies and $200,000 was committed for studies of ocean disposal of wastes. As of August 1966, two grants had been authorized for a total of $53,579. The loan portion of the act received authorization for $2,800,000. By August 1966, two loans had been committed for

a total of $60,500. It was indicated that the 1967-68 budget includes proposals for additional monies. In addition, the budget will indicate the possibility of needing construction grant money to match Federal funds.

The number of stream pollution control projects approved by the State for the period 1955 through 1966 is shown in Table IV. These totals include all projects such as new plants, alterations to existing plants, power lines, pumping stations, etc.

New Jersey has received grants for the construction of sewage works under the Federal Water Pollution Control Act. Table V shows the amounts awarded since the inception of the Federal grant program in 1956. The table shows the breakdown for Water Pollution Control (WPC) projects, Accelerated Public Works (APW) projects, and combined APW-WPC projects. The Department sets priorities for projects in the state to be considered for Federal construction grants.

Comment - The Construction Grants Program of the FWPCA has indicated the priorities established by the State for receipt of Federal construction grants have been based largely on projects designed to eliminate septic tanks. While such projects may be desirable they may not necessarily be the most important ones in terms of controlling pollution in streams. It would seem that the State's system for establishing priority for Federal assistance should be realigned to provide heavier emphasis on projects which are relatively more important in eliminating or reducing water pollution.

A comparison of Tables IV and V shows that in the period 1956-1966 the State approved 2,838 stream pollution control projects with a total

TABLE IV

STREAM POLLUTION CONTROL PROJECTS APPROVED BY NEW JERSEY

Year	Number of Projects	Total Cost (millions)
1955	184	$ 41.7
1956	216	18.1
1957	176	24.9
1958	216	47.0
1959	192	43.3
1960	232	41.2
1961	240	42.0
1962	332	67.0
1963	280	54.2
1964	300	57.0
1965	315	58.0
1966 (through August)	155	35.0
TOTAL	2,838	$487.7

TABLE V

STATUS OF NEW JERSEY APPLICATIONS FOR FWPCA CONSTRUCTION GRANTS AS OF SEPTEMBER 30, 1966

Program	No. of Projects	Est. Total Costs	Est. Eligible Costs	Grant Offers
WPC				
Projects Approved* (Since 7/31/56)	108	$ 92,309,586	$74,853,173	$17,959,976
Applications Being Processed in Regional Ofc	2	1,436,600		422,000
Applications Being Processed in State	13	25,335,000		7,322,181
Possible Applications	11	7,594,332		1,978,300
APW-WPC	5	3,751,234	2,160,953	530,851 (APW)
				440,765 (WPC)
APW-Only	13	15,370,541	10,889,561	5,444,780
Totals for Projects Approved	121	$107,680,127	$85,742,734	$23,935,607

WPC - Water Pollution Control Projects receiving grants under the Federal Water Pollution Control Act.

APW - Projects receiving grants under the Accelerated Public Works Act.

*Includes "APW-WPC" Projects, but not "APW-Only" Projects.

cost of $487.7 million. The total Federal grant offers made during this period was $23.9 million. Not all of the state projects were eligible for construction grant money, but the comparative figures indicate the relatively small percentage of water pollution control project costs that are supported by Federal grants.

At present, the State does not have a grant program to provide financial assistance for construction of sewage works. The "Clean Waters Restoration Act of 1966", recently passed by Congress makes it important for the State to establish a construction grants program if maximum financial benefit is to be realized. The act authorizes increased Federal appropriations through 1971 for grants to municipalities for construction of sewage works. The amount of these grant funds allocated to New Jersey for the year 1967-1971 are shown in Table VI.

TABLE VI

TENTATIVE ALLOCATION OF FEDERAL CONSTRUCTION GRANT FUNDS TO NEW JERSEY

Year	Total Allocation
1967	$ 4,027,600
1968	14,040,400
1969	22,384,400
1970	32,397,200
1971	40,741,200

The amendments to the Federal Water Pollution Control Act provide for additional grant monies to be awarded in cases where the State also provides part of the cost of the project. The act provides for the following Federal grants toward the cost of sewage treatment projects:

1. 30 percent of the reasonable cost of the project with no dollar limitation on the amount allowed per project.
2. 40 percent of the cost of the project if the State agrees to pay not less than 30 percent of the reasonable estimated cost.
3. 50 percent of the cost of the project if the State agrees to pay not less than 25 percent of the estimated reasonable costs and if enforceable water quality standards have been established for the waters into which the project discharges.
4. The amount of the grant may be increased by an additional 10 percent for any project certified by an official State, metropolitan, or regional planning agency as being in conformity with a comprehensive plan developed for a metropolitan area. HUD determines if the agency is the official planning agency.

The Department has estimated that the costs for major treatment needs and ancillary facilities in the State through 1972 would amount to $450 million at present dollar value. The annual projected cost over the 6 year period is $75 million. If the State provided grants for one-third of this annual cost, the funding required would be in the order of $25 million a year.

If the State is to benefit from the Federal grant program, it should initiate a construction grant program in the immediate future.

The State might also consider an operation and maintenance grants program to act as a stimulus to more effective operation and maintenance, backed up by proper laboratory control, of sewage treatment plants within the State. For example New York State provides annual operation and maintenance grants to sewage treatment plants which meet certain criteria. These grants provide up to 30 percent of the costs of operating a plant.

Case Histories

In an effort to determine the course of events which might take place on a pollution control problem, six cases were reviewed in the files of the Program. These cases were selected to represent typical problems which arise in a small municipality, a sewerage authority, a regional area, and industries. The files were reviewed to develop a timetable of action which took place in each case. Detailed timetables on these cases are presented in Appendix I and are reviewed briefly here for discussion purposes.

Boro of Sussex - On July 25, 1960, the Department issued an order to the Boro of Sussex requiring that prior to November 1, 1960, it should cease discharge of improperly, inadequately, and insufficiently treated sewage and to provide a sewage treatment plant. The completed plant was placed in operation about September 1965. An inspection made of the plant by Department Engineers on December 6, 1965, indicated that there were still some operational deficiencies at that time.

Boro of Little Silver - This is an example of a case which started with a local problem relating to improperly operating septic tanks and gradually evolved into a regional sewerage authority which will service a large portion of Monmouth County. On December 8, 1961, the Department issued an order to the local Board of Health to cause abatement of a nuisance. An order was issued at the same time to the Boro of Little Silver requiring that it cease pollution and make a disposition of the sewage that would be approved by the Department. A regional sewer study committee was formed and presented a report in December 1962. By October of

1965, the Northeast Monmouth County Regional Sewerage Authority was formed and it was reported that construction of sewage collection and treatment facilities was scheduled for completion by July 1, 1968.

Town of Hammonton - On April 25, 1961, an order of necessity was issued for improvements to the sewage treatment plant. On May 25, 1964, an order was issued by the Department to Hammonton requiring improvement, additions to, or alterations to the sewage treatment plant to provide an effluent approved by the State by August 31, 1964. An inspection conducted by Department Engineers on June 27, 1966, showed that the additions and alterations were only 5% complete. This case was complicated and delayed by the fact that the Attorney retained by the town filed a request that the order of May 25, 1964 be set aside. The State Commissioner of Health refused to rescind the order and as a result the case went to court. The order requiring improved treatment was upheld, but the action delayed progress in correcting the problem.

Rahway Valley Sewerage Authority - Orders were issued on January 22, 1963, to the Rahway Valley Sewerage Authority requiring that it cease discharge of improperly treated sewage by January 27, 1964. This case went through many phases including establishment of an industrial wastes ordinance and two pilot plant studies to determine the most effective way of handling the complex municipal-industrial waste mixture received by the authority for treatment. A letter from the authority on September 24, 1964, established a timetable for construction of facilities and indicated that they would be completed by the Winter of 1968.

Whippany Paperboard Company - The Whippany Paperboard Company operates three paper mills - the Hanover Mill, Eden Mill, and Stony-Brook Mill. In April 1947, a permit was approved by the Department for construction of a waste treatment plant. The files are incomplete from this date until September 16, 1954, when an order was issued requiring that the Hanover Mill cease polluting the Whippany River. However, the order carried no date for compliance. At the same time a notice was filed against the Eden Mill that a $100 penalty would be assessed for each week the violation continued after the serving of the notice. On April 12, 1955, the Commissioner of Health wrote to the Deputy Attorney General requesting action to enforce compliance with the previously issued orders. On July 27, 1955, a consent judgment was effected requiring the ceasing of pollution by April 15, 1956. However, the problem was not yet solved and the file continues with correspondence relating an endless schedule of meetings, agreements and conclusions, but without achieving correction. On April 25, 1966, a consent judgment was signed by the court and on July 21, 1966, a civil action order limited production at the plant to a 4.7 mgd discharge. During the recent drought, the plant essentially utilized the entire flow of the Whippany River for its production purposes and its resultant treated waste discharges constitute practically the entire flow in the river downstream from the paper mill.

Monsanto Chemical Company, Bridgeport, New Jersey - On May 26, 1961, a letter from the Department to the Monsanto Chemical Company gave approval for installation and operation of an outfall to the Delaware River provided

the discharge met Incodel Standards for Zone 3. On September 17, 1965, the Department issued an order to the company to cease pollution of the river prior to December 31, 1965. In May 1966, Monsanto wrote to the State indicating that they expected to complete an acid treatment plant by June 30, 1966.

Comment - These case histories indicate the time and efforts that are expended between the time a problem is cited for correction and the time a pollution control project is consummated. The Whippany Paperboard Company case shows how a problem that constitutes a major pollution source can continue for years without adequate correction. It points out the need for aggressive, definitive action by the Department or the Attorney General's Office to bring such a case to swift conclusion.

The attention and follow-up that these cases require further point out the need for an adequate staff in the Program to move these cases along at a faster and more positive rate of solution.

Water Pollution Control Needs

A recent report published by the Conference of State Sanitary Engineers provides an appraisal of the backlog of needed municipal waste treatment facilities which existed on January 1, 1966. (7) The report is based on surveys conducted by each state of its needs for treating municipal wastes. The statistics for the State of New Jersey are shown in Table VII.

Accordingly to these figures New Jersey no longer has any communities discharging untreated sewage and only has 14 communities discharging inadequately treated sewage. These figures do not appear to coincide with other known facts. For instance, through

TABLE VII

NEW JERSEY MUNICIPAL WASTE TREATMENT NEEDS*

	1965			1966		
	Number	Population Served	Plant Cost in Thousands $	Number	Population Served	Plant Cost in Thousands $
Communities Discharging Untreated Sewage	1	750,000	6,750	0	0	0
Communities Discharging Inadequately Treated Sewage	16	427,150	10,842	14	1,163,600	25,882
Unsewered Communities Requiring Sewage Collection & Treatment Facilities	58	318,138	24,273	47	267,950	21,926
Total - Plant Only				61	1,431,550	47,808
Ancillary Works						38,246
Total Including Ancillary Works						86,054
Changes in the Backlog-Municipal Waste Treatment Facilities						
Needs satisfied or redefined - 1965	12	53,104	4,529			
New needs defined - 1966	0	0	0			
Backlog Increase	-12	-53,104	-4,529			

*From the Sixth Annual Survey of Municipal Waste Treatment Needs, Conference of State Sanitary Engineers, January 1, 1966

August of 1966 the Department has issued 52 orders. The majority of these orders were issued following the promulgation of classification standards and were against municipalities requiring that they provide adequate treatment. It appears that the figures prepared for the report did not truly reflect the existing situation in New Jersey.

Undoubtedly a redefinement of some of the problems needs to be carried out. This apparently happened in New York State as reported in this same survey. New York State reported that 351 new needs were defined during 1965. This probably results from a close evaluation of the State's needs in conjunction with the Pure Waters program.

A more realistic set of figures were stated in a "Draft Proposed for Stream Pollution Control through Subsidy of Sewerage Systems," recently prepared by the Program. This proposal states in part:

> "Because of necessary regional trunk sewer and interceptor facilities, the higher degrees of treatment necessary, and higher labor and material costs, it is estimated that the cost of construction for new plants, expansions and getting higher treatment, as a direct result of State Health Department pollution abatement orders, will increase above the current rate of construction costs from approximately $240,000,000 over a six year period to approximately $450,000,000 over the next six years."

Other problems of special concern in the State were outlined in a

memorandum from the Director of the Division of Environmental Health, to the Water Pollution Control Program of the Department of Health, Education, and Welfare.(3) This memorandum was prepared in December 1965. The memorandum stated in part:

There are several problems of special concern to the Department. One such problem is the issue of discharging effluents to inland tidal waters versus ocean disposal. It has been demonstrated for many years on the North Jersey Coast from Sandy Hook to and including Long Beach Island that ocean disposal is feasible without threatening the quality of the bathing waters in this part of the State. More stringent treatment requirements are to be imposed in the foreseeable future in this area even if ocean discharges are continued. A question under consideration is whether or not some appropriate sewage and industrial waste might be discharged to inland tidal waters rather than to the ocean, while other wastes might best be discharged to the ocean. The uses of the inland waters versus the ocean and the differences in assimilation of the wastes in these waters would dictate which is best in each case.

Another factor of importance in this problem is that of salt water intrusion and the use of ground water recharge by way of the surface or even sub-surface disposal with appropriate higher degrees of treatment of the waste waters. Along the South Jersey Coast (South of Long Beach Island) it has to date been the practice to discharge effluents to the inland tidal waters from the ocean front communities. Studies are contemplated in the immediate future on the feasibility of ocean discharge in this area.

Again the issue as to the economics and conservation of water is raised in relation to the North Jersey Coast. Related to this is the threat to the shellfish industry along the South Jersey Coast.

A second problem illustrates the relationship of the stream pollution control program in New Jersey to the total overall supply problems of the State. The upper Passaic River Basin in the heart of Northern New Jersey has gradually become a major problem in terms of pollution control and water supply in recent years. This problem has been accentuated by the current drought.

The upper Passaic River Basin is a major source of public water supply in New Jersey. Several significant developments on the upper Passaic River took place before some of the current controls were required. This area of the State has had a considerable influx of population especially during the last 20 years. It also has had a significant influx in expansion of industry in the basin. These two developments are accentuated by the drought and have produced the obvious problems of stream pollution and water supply.

The heads of the New Jersey Departments of Health, Conservation and Economic Development, and Public Utilities organized a committee early in 1965 to make a crash study of this situation and to make short and long-range recommendations for corrective action. The committee reported early in July of 1965 suggesting among other things that a professional sanitary engineering survey should be made of the upper Passaic River Basin problem.

A consulting engineering firm has been engaged by the County Utilities Authority of Morris County to make a study with a financial grant from the

State Financial Assistance Law. It is contemplated that the study and report to be made will concern itself with waste water treatment and disposal, water supply and also the provision for impoundment of waters for compensating purposes during periods of low stream flow. Specifically in relation to waste water collection treatment and disposal the study will concern itself with possible multi-municipal (regional) collection and disposal facilities including ultra treatment methods. It is conceivable that this problem will be deemed so serious as to justify not only ultra treatment methods for waste waters but also the return by pumpage for one or more treatment disposal facilities to upland storage facilities so as to provide for the reuse of waters.

There is an urgent requirement for increased program grants to cover the cost of studying water management needs in various parts of the State. Such studies would include:

(1) Ocean outfall possibilities in South Jersey.

(2) Recharge of ground water to combat salt water intrusion.

(3) Water management studies in the upper Passaic Drainage Basin.

It is anticipated that these three studies alone may cost some $500,000.

Cost of providing secondary treatment where there is currently primary treatment may exceed $150 million. A substantial number of primary treatment plants will be expanded and converted to secondary treatment processes as a consequence of action already taken by the Department. Should similar action be taken by this Department against the remaining number it is anticipated that construction will have been initiated or completed 5 to 7 years hence. It would therefore appear that possibly $30 million annually

will be committed or appropriated by municipalities and other public bodies above and beyond that normally anticipated as a consequence of continued growth and normal improvement needs. The Federal funds anticipated to become available will be of minor significance to the total expended by the people of this State. It is estimated therefore that $20 million per year is a more realistic figure of needs for construction grants than the current figure of $3.5 million.

Review and Evaluation

The existing statutes of the State of New Jersey relating to water pollution control are concise, strong, and appear to be adequate to solve the problems of the pollution. Considerable powers of interpretation and authority to act are vested in the Commissioner of Health by the statutes. The laws have been upheld in the highest courts of the State.

In its early history the water pollution control program of the State Health Department was probably one of the better ones in the country. The State had its regulations established early, in 1899, and it was able to meet the needs of pollution control as the State grew and the problems increased in numbers and complexity. The State's record in eliminating discharges of raw sewage is good and compares favorably with other states in the nation.

Even with its strong laws and early start in the pollution control field, it appears today that the Department has not been able to maintain complete control of the water pollution problems in the State. There are evidences that serious pollution problems have remained uncorrected for many years.

Despite its pollution control program, many waters of the state are in a poor sanitary condition. The Hudson, Passaic, Hackensack and Raritan Rivers are all polluted, Raritan Bay is polluted. The Arthur Kill is seriously polluted. Shellfish areas in Raritan Bay and along the coast have been closed due to pollution. Federal enforcement conferences have been held to consider pollution problems in the Hudson River, Arthur Kill and Raritan Bay. Complaints from counties in the northern and western parts of the State indicate that there are many pollution problems as yet not corrected. The local offices of the Federal Water Pollution Control Administration have received many letters directly from citizens of New Jersey as well as those that have been relayed from the Secretary of the Interior's Office or even the President's Office testifying to the fact that cases have been referred many times to the Department and no action has been forthcoming. It is recognized that any public agency is always subject to criticism by the public but nevertheless the existing evidence on water quality within the State indicates that there is room for much improvement in terms of water pollution control.

One of the unusual cases of citizen's action against the Department and other pollution control agencies in the State was culminated in November 1965 when the Warren County Grand Jury made a Presentment P-1-M-65 in regard to severe water pollution conditions in the County.

The Grand Jury was called upon to hear complaints from individuals and members of the Warren County Anti-Pollution League that the streams of Warren County were being polluted. The following allegations were made:

1. There are severe pollution conditions in various locations in Warren County.
2. Many of these conditions have existed for years.
3. Little has been done to correct these conditions.
4. The conditions have been steadily growing worse.
5. The laws governing this subject have not been adequately enforced.
6. Persons who have attempted to bring these matters to the attention of the proper authorities have been subjected to abuse because of their activities.

The Grand Jury found that the allegations were well founded and concluded in part that:

1. There has been inadequate Regional, County and Local planning in regard to the disposal of sewage.
2. Some local governmental bodies have been reluctant to construct adequate systems for the treatment of sewage because of the expense involved.
3. While New Jersey's laws in regard to control of pollution of waters by the Department appear adequate, the enforcement of these laws has tended to lack vigor because of the philosophy that a business should not be closed even when it is polluting our waters.
4. An extended period of time usually elapses between the time a complaint is made to the Department and the time actual legal action is commenced against a polluter.

The Grand Jury made 19 recommendations which it felt would help alleviate the problems of water pollution.

The Department has had serious problems to contend with in carrying out its stream pollution control program as mentioned previously in the report. The staff existing until recently was essentially the same in number as the staff that existed 25 years ago when the problems were considerably fewer in number and in complexity. Probably one of the reasons for the inadequate numbers on the staff is that the State salaries have generally been low and as a result the State has not been able to attract sufficient numbers of competent people.

The State has issued orders in many cases, although the number of orders issued does not seem to be in proportion to the potential number of waste pollution problems that exist. There does not seem to be a consistent policy for following up on orders once they are issued and deadlines established are passed without any follow-up or remedial action being taken.

Apparently the outlook of the Program staff members is more optimistic than those who critize the Program. For example, the following quotation is from a paper presented by a member of the staff before a professional association:

> "We challenge any other State to meet some of the statistics that follow. Over 90% of this State's population and over 98% of this State's industries are provided sanitary sewer facilities. Septic tanks serving individual households are being eliminated twice as fast as they are being installed. With two exceptions, there is no one municipality whose entire sewer system is not discharged into a treatment facility. In one of these instances construction of a secondary treatment facility has been initiated and we anticipate the other to

resolve its problem within the next year. Those who are advised of this and who are in the stream pollution control business listen to such statistics in disbelief. How this has been accomplished has been related to you in the past and yet it is frustrating to say the least that most of our citizens and many elected or appointed officials have little knowledge of what has been accomplished in this state.

"Regardless of law, rules, regulations, specifications or policies the Department of Health recognizes that its success in stream pollution control depends upon sound administrative judgment, foresight, and integrity."(4)

A report of activity published by the Department in 1958 contained the following statement:

"Pollutants which 10 years ago would have found their way into New Jersey Streams are now, for the most part, being effectively treated in modern sewage treatment plants with the treated residue being discharged into streams which will become cleaner with each passing year.

"On the spot observation is enough to convince the careful observer who was familiar with conditions before. Biological analyses will support the observations. The State Department of Health does not say that there is no stream pollution in New Jersey today. It does say there is considerably less of it than there was 10 years ago; there will be still less as projects now under construction and still being planned are completed and placed in operation. With

average rain to provide a dilution factor and with continued operational surveillance, our streams will become cleaner than they are today. They will eventually achieve a reasonably clean status. We mean to keep them that way." (1)

This attitude is not shared by constituents in the State. At the hearing on the classification for the Passaic River the Warren County Anti-Pollution League said, "the New Jersey State Department of Health has not enforced the anti-pollution laws even though we have been advised that our State has the best laws in the nation." The League's statement also said, "we believe the past record of the New Jersey State Health Department in regard to enforcing our anti-pollution laws has been very poor and that little action is taken unless pressure is exerted from an outside source primarily an aroused public."

With attitudes like this existing in the state, it would take many years of outstanding performance and a hard hitting public relations program to renew confidence in the existing program. It would appear that a logical step to improve the situation and to achieve satisfactory pollution control in the state would be to build a staff adequate in number and professional abilities and to reorganize the Program on a larger scale so that essentially a fresh start can be made in the water pollution control program. With this in mind it is suggested that the State consider new legislation to carry out the stream pollution control program.

A draft of a bill follows which would provide legislation to give the State a basic new approach to the water pollution control program.

The bill would among other things:

(1) Create, as a constituent agency within the State Department of Health, the State Water Pollution Control Board.

(2) Transfer from the State Department of Health to the State Water Pollution Control Board all responsibilities, powers, duties, etc. for the administration and enforcement of all existing laws relating to water pollution control.

(3) Empower the State Water Pollution Control Board, after public hearing, to adopt and promulgate reasonable standards of water quality for the waters of the State.

(4) Authorize a program of state grants to counties and municipalities for the construction of those water pollution control projects as qualified for Federal aid and assistance under the provisions of the Federal Water Pollution Control Act, as amended. The Water Pollution Control Board would administer the grant program.

It should be noted that this proposed legislation calls for "the administration and enforcement of all existing laws relating to water pollution control." Therefore, the existing statutes which are strong laws would not be changed.

Creation of a State Water Pollution Control Board consisting of: The heads of the State departments or agencies concerned respectively with health, agriculture, conservation, fish and game, and commerce, would help bring together all the water interests in the State to work toward a common goal of water pollution control.

SUGGESTED DRAFT OF LEGISLATION TO REVISE THE WATER POLLUTION CONTROL PROGRAM IN NEW JERSEY

AN ACT to establish a State Water Pollution Control Board within the State Department of Health; to authorize the control, prevention, and abatement of pollution of the surface and underground waters of the State; to provide for State financial assistance for the construction of public waste treatment facilities; and to transfer from the State Department of Health to the State Water Pollution Control Board responsibility for the administration of the laws relating to pollution of the surface and underground waters of the State.

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

Section 1. Legislative Declaration: Whereas the pollution of the waters of this State constitutes a menace to public health and welfare, creates public nuisances, is harmful to wildlife, fish and other aquatic life, and impairs domestic, agricultural, industrial, recreational, and other beneficial uses of water; and whereas the problem of water pollution of this State is closely related to the problem of water pollution in adjoining States; and whereas it is the public policy of this State to conserve the waters of the State and to protect, maintain, and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and other aquatic life, and for domestic, agricultural, industrial, recreational, and other beneficial uses, and to provide that no wastes be discharged into any waters of the State without first being given the degree of treatment necessary to protect the beneficial uses of such water, it is hereby declared that the prevention, abatement,

and control of the pollution of the waters of this State are affected with a public interest, and the provisions of this Act are enacted in the exercise of the police powers of this State for the purpose of protecting the health, peace, and safety, and general welfare of the people of this State.

Section 2. Definitions:

(1) For the purposes of this Act, unless the context clearly requires a different meaning, the following words and phrases shall have the meanings ascribed to them in this section:

(2) "Pollution" means such contamination, or other alteration of the physical, chemical, or biological properties of any waters of the State, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the State as will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to public health, safety, or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

(3) "Wastes" means sewage, industrial wastes, and all other liquid, gaseous, solid, radioactive, or other substances which may pollute or tend to pollute any waters of the State.

(4) "Sewerage System" means pipe lines or conduits, pumping stations, and force mains, and all other structures, devices, appurtenances, and facilities used for collection or conducting wastes to an ultimate point for treatment or disposal.

(5) "Treatment works" means any plant or other works used for the purpose of treating, stabilizing, or holding wastes.

(6) "Disposal system" means a system for disposing of wastes, either by surface or underground methods, and includes sewerage systems, treatment works, disposal wells, and other systems.

(7) "Waters of the State" means all waters within the jurisdiction of this State including all coastal waters, lakes, streams, ponds, impounding reservoirs, marshes, watercourses, waterways, springs, wells, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the State.

(8) "Person" means the State or any agency or institution thereof, any municipality, political subdivision, public or private corporation, individual, partnership, association, or other entity, and includes any officer or governing or managing body of any municipality, political subdivision, or public or private corporation.

(9) "Board" means the Water Pollution Control Board created by this Act.

Section 3. Creation of the State Water Pollution Control Board

(1) There is hereby created, as a constituent agency within the State Department of Health established by (Here cite New Jersey statutes establishing the State Department of Health), a State Water Pollution Control Board, which shall consist of ___ members as follows:

The heads of the State departments or agencies concerned respectively with health, agriculture, conservation, fish and game, and commerce,

ex officio, and ___ citizen members appointed for terms of ___ years by the Governor, representing municipal, industrial, agricultural, and recreational interests. The Board is directed to carry out the functions and duties conferred on it by this Act.*

(2) Each ex officio member of the Board may, by official order filed with the Executive Secretary of the Board, designate a representative of his Department to perform the duties of the member making the designation. Such persons, if any, designate pursuant to this section, shall have the powers and be subject to the duties and responsibilities of the officer appointing him.

(3) The Governor may remove any member for malfeasance in office or for any cause that renders such member incapable or unfit to discharge the duties of his office, and such removal when so made shall be final.

(4) Each member of the Board not otherwide in full-time employment of the State shall receive a per diem of _____ for each day actually and necessarily spent in the discharge of official duties, but not to exceed _____in any one year; and all members, ex officio and appointed by the Governor, shall receive traveling and other necessary expenses actually incurred in the performance of official duties.

* Subsection 3(1) is taken from the Suggested State Water Pollution Control Act, Revised. The composition of the Board (number and type of State agencies represented and number of citizen members) and the length of terms of office of the citizen members should be tailored to fit the realities of New Jersey State Government. The sponsors may wish also to give consideration to staggered terms for the citizen members.

(5) The Board shall organize by the election of a Chairman, a Vice Chairman, and a Secretary, from the membership of the Board, and shall keep a record of its proceedings. The Board shall hold regular public quarterly meetings each calendar year and may hold special meetings on the call of the Chairman or Vice Chairman at such other times as deemed necessary. Written notice of the time and place of all meetings shall be mailed at least five days in advance of any such meetings to each member by the Secretary.

(6) All members, both ex officio and appointed by the Governor, shall have a vote. A majority of the Board shall constitute a quorum and the concurrence of a majority of the Board in any matter within its powers and duties shall be required for any determination made by the Board.

(7) The Board is hereby designated as the State water pollution control agency for this State for all purposes of the Federal Water Pollution Control Act, as amended, including the Water Quality Act of 1965, and is hereby authorized to take all action necessary and appropriate to secure to this State, its municipalities, or intermunicipal or interstate agencies, the benefits of said acts and amendments thereto within the limits of appropriations made therefor and within the authority of the Board with respect thereto.

Section 4. Powers and Duties of the Board: The Board shall have the following powers and duties:

(1) To exercise general supervision of the administration and enforcement of this Act and of the rules, orders, and standards of water quality promulgated under authority of this Act;

(2) To develop and adopt, a comprehensive program for the prevention, control, and abatement of pollution of the waters of the State, and from time to time, review and modify such program as necessary;

(3) To accept and to administer loans and grants from the Federal Government and from other sources, public or private, which loans and grants shall not be expended for other than the purposes for which provided;

(4) To adopt, modify, and repeal, after notice and hearing, and to enforce rules and orders implementing or effectuating its powers and duties as it may deem necessary to prevent, control, and abate existing or potential pollution;

(5) To hold such public hearings, to issue notices of hearings, subpoenas requiring the attendance of witnesses and the production of such evidence, to administer oaths, and to take such testimony as it deems necessary;

(6) To certify, when requested, all costs and expenditures for any facility, land, building, machinery, equipment, treatment works, sewerage or disposal systems, as have been acquired, constructed, or installed in conformity with the purposes of this Act;

(7) To designate a hearing officer who shall have the power to issue notices of hearings, subpoenas requiring the attendance of witnesses and the production of such evidence, to administer oaths and to take such testimony as may be necessary or required by this Act; and such hearing officer shall certify and file with the Board for adoption or modification by the Board recommended findings, conclusions, and a proposed order;

(8) To employ an Executive Secretary and to delegate to such Executive Secretary such duties and responsibilities as it may deem necessary; provided, that such Executive Secretary shall not have any authority to formulate, adopt, promulgate, amend, or repeal rules and regulations or to make determinations or issue or countermand orders, except as specified in Section 7(4) of this Act.

(9) Upon request, to examine and approve or disapprove plans and specifications for the construction and operation by a political subdivision or (i) new sewerage systems, disposal systems, and treatment works, and (ii) extensions, modifications of, or additions to new or existing sewerage systems, disposal systems, or treatment works.

(10) To advise, consult, cooperate, and enter into agreements with other agencies of the State, the Federal Government, other States, and interstate agencies, and with groups, political subdivisions, and industries affected by the provisions of this Act and the policies of the Board;

(11) To collect and disseminate information relating to water pollution and the prevention, abatement, and control thereof; and to encourage, participate in, or conduct studies, investigations, research, and demonstrations relating thereto;

(12) To take such action in accordance with rules and orders promulgated by the Board as may be necessary to prevent, abate, and control water pollution;

(13) To take such samples of water as deemed necessary to determine the amount of pollution of any of the waters of the State and to use the most effective test methods in making such determinations.

(14) The Board through its duly authorized representatives, shall have power to enter at reasonable times upon any private or public property for the purpose of inspecting, investigating, and determining, conditions relating to the pollution of any waters of the State.

(15) In order to develop the comprehensive program for the prevention, abatement, and control of the pollution of the waters of the State, the Board is authorized to recommend the grouping of such waters into classes in accordance with their present and future most beneficial uses in the interest of the public, and such classifications may, from time to time, be altered or modified. Before any such classification is made, or modifications made thereto, public hearing shall be held by the Board with regard thereto in accordance with the provisions of Section 5 of this Act.

(16) The Board shall cause samples to be taken from the waters of the State periodically, and in a logical geographical manner, so as to advise the Board of the water quality standard of the waters of the State.

(17) Whenever a sample collected at the direction of the Board proves to be below the water quality standard set for that water, then the Board shall determine the source of the pollution, and if more than one source is responsible, determine all sources of the pollution so that one hundred per cent of the sources responsible for the pollution can be determined.

(18) To accept all responsibilities, duties, obligations, and functions, and to exercise all powers and rights of the State Department of Health in connection with the administration of the laws relating to the pollution of the waters of this State found in (here cite New Jersey statutes setting forth these matters)

(19) To accept all responsibilities, duties, obligations, and functions, and to exercise all powers and rights of the State Commissioner of Health in connection with the administration of the laws relating to the pollution of the waters of this State found in (here cite New Jersey statutes setting forth these matters)

(20) To administer the program of State financial assistance for the construction of public waste treatment facilities established by Section 17 of this Act. In furtherance of this administration, the Board is empowered to adopt such rules and regulations and such procedures to be followed in applying for State grants as shall be necessary.

(21) To exercise all incidental powers necessary to carry out the purposes of this Act.

Section 5. Water Quality Standards:

(1) The Board, in addition to other powers and duties enumerated in Section 4 of this Act, shall adopt and promulgate reasonable standards of quality of the waters of the State for the prevention, control, and abatement of pollution, which may, from time to time, be changed or modified, it being recognized that due to variable factors, no single standard of quality or the amount of pollutants that is permitted to be discharged into the waters of the State is applicable to all streams or to different segments of the same waters; provided, that in the fixing of such standards, the Board shall give consideration to, but not be limited to, the following, the intent being that the minimum level for such standards shall be the standards accepable under the criteria established by the Federal Water Pollution Control Act, as amended, including the Water Quality Act of 1965:

(a) The protection of the public health;

(b) The size, depth, surface area covered, volume, direction, and rate of flow, stream gradient, and temperature of water;

(c) The character and uses of the land area bordering said waters;

(d) The uses which have been made, are being made, or may be made of said waters for every public or private purpose;

(e) The disposal of sewage and wastes;

(f) The extent of pollution resulting from natural causes, including mineral and chemical characteristics;

(g) The extent to which suspended solids, colloids, or a combination of solids with other suspended substances may be permitted;

(h) The extent to which bacteria and other biological organisms may be permitted;

(i) The amount of dissolved oxygen that is to be present and the extent of the oxygen demanding substances which may be permitted;

(j) The extent to which toxic substances, chemicals, or deleterious conditions may be permitted;

(k) The need for standards for effluents from disposal systems.

(2) Prior to establishing, amending, or repealing standards of water quality, the Board shall, after due notice**, conduct public hearings thereon. Notice of public hearing shall specify the waters for which standards are sought to be adopted, amended, or repealed and the time, date, and place of such hearing.

(3) Standards of quality of the waters of the State or any amendment or repeal thereof shall become effective upon adoption by the Board.**

** Publication, dissemination, mailing, etc. of notice of public hearings and other administrative actions of the Board should follow procedural requirements set out in New Jersey statutes applicable to all administrative agencies.

Section 6. Waste Disposal Standards: Any person proposing to discharge sewage or waste other than into a community sewer system, shall file with the Board a report of such proposed discharge. Upon the request of the Board, any person presently discharging sewage or waste other than into a community sewer system, shall file with the Board a report of such discharge. The reporting of a discharge of sewage from family dwellings may be waived by the Board. The Board, after any necessary hearing, shall prescribe requirements as to the nature of such proposed or existing discharge with relation to the conditions existing from time to time in the disposal area or receiving waters upon or into which the discharge is made or proposed and notify the person making or proposing the discharge of its action. Such requirements may be revised from time to time. After receipt of such notice, the person so notified shall provide adequate facilities to meet any such requirements with respect to the discharge of sewage and industrial waste. In setting such requirements, the Board shall consider the criteria specified in Section 5 of this Act.

Section 7. Proceedi[illegible] before the Board:

(1) Whenever the Board has reason to believe that a violation of any provision of the Act or regulation or of any order of the Board has occurred, it may cause a written complaint to be served upon the alleged violator or violators. The complaint shall specify the provision of the Act or regulation or order alleged to be violated, the facts alleged to constitute a violation thereof, and shall order that necessary corrective action be taken within a reasonable time to be prescribed in such order. Any such order shall become final unless the person or persons named therein request in writing a hearing before the Board no later than _____ days after the date such order is served. In lieu of such order, the Board may require that the alleged violator appear before the Board at a time and place specified in the notice and answer the

charges complained of. The notice shall be delivered to the alleged violator or violators in accordance with the provisions of subsection 5 of this section not less than _____ days before the time set for the hearing.

(2) The Board shall afford an opportunity for a fair hearing in accordance with the provisions of Section 8 to the alleged violator or violators at the time and place specified in the notice or any modification thereof. On the basis of the evidence produced at the hearing, the Board shall make findings of fact and conclusions of law and enter such order as in its opinion will best further the purposes of this Act and shall give written notice of such order to the alleged violator and to such other persons as shall have appeared at the hearing and made written request for notice of the order. If the hearing is held before any person other than the Board itself, such person shall transmit the record of the hearing together with recommendations for findings of fact and conclusions of law to the Board. The Board, prior to entering its order on the basis of such record and recommendations, shall provide opportunity to the parties to submit for its consideration exceptions to the recommended findings or conclusions and supporting reasons for such exceptions. The order of the Board shall become final and binding on all parties unless appealed to the courts as provided in Section 12 within _____ days after notice has been sent to the parties.

(3) Any person who is denied a permit by the Board or who has such permit revoked or modified shall be afforded an opportunity for a fair hearing as provided in subsection 2 of this section in connection therewith upon written application to the Board within _____ days after receipt of notice from the Board of such denial, revocation, or modification. On the basis of such hearing the Board shall affirm, modify, or revoke its previous determination.

(4) Whenever the Board or in the interim between meetings of the Board the Executive Secretary finds that an emergency exists requiring immediate action to protect the public health or welfare, the Board or the Executive Secretary may, without notice or hearing, issue an order reciting the existence of such an emergency and requiring that such action be taken as the Board or the Executive Secretary deems necessary to meet the emergency. Notwithstanding the provisions of subsection 2 of this section such order shall be effective immediately. Any person to whom such order is directed shall comply therewith immediately but on application to the Board shall be afforded a hearing as soon as possible. On the basis of such hearing the Board shall continue such order in effect, revoke it or modify it.

(5) Except as otherwise expressly provided, any notice, order, or other instrument issued by or under authority of the Board may be served on any person affected thereby personally or by publication, and proof of such service may be made in like manner as in case of service of a summons in a civil action, such proof to be filed in the office of the Board; or such service may be made by mailing a copy of the notice, order, or other instrument by registered mail, directed to the person affected at his last known post office address as shown by the files or records of the Board, and proof thereof may be made by the affidavit of the person who did the mailing, filed in the office of the Board.

Every certificate or affidavit of service made and filed as herin provided shall be prima facie evidence of the facts therein stated, and a certified copy thereof shall have like force and effect.

Section 8. Hearings: The hearings herein provided may be conducted by the Board itself at a regular or special meeting of the Board, or by any member of the Board acting in its behalf, or the Board may designate hearing

officers who shall have the power and authority to conduct such hearings in the name of the Board at any time and place. A verbatim record of the proceedings of such hearings shall be taken and filed with the Board, together with findings of fact and conclusions of law made by the Board. Witnesses who are subpoenaed shall receive the same fees and mileage as in civil actions. In case of contumacy of refusal to obey a notice of hearing or subpoena issued under this section, the (District) court shall have jurisdiction upon application of the Board or its representative, to issue an order requiring such person to appear and testify or produce evidence as the case may require and any failure to obey such order of the court may be punished by such court as contempt thereof.

Section 9. Inspections, Investigations, and Maintenance of Records

(1) The Board or its duly authorized representative shall have the power to enter at reasonable times upon any private or public property, and the owner, managing agent or occupant of any such property shall permit such entry for the purpose of inspecting and investigating conditions relating to pollution or the possible pollution of any waters of the State, and to have access to such records as the Board may require under subsection 2 of this section.

(2) The Board may require the maintenance of records relating to the operation of disposal systems, and any authorized representative of the Board may examine and copy any records or memoranda pertaining to the operation of disposal systems. Copies of such records shall be submitted to the Board upon request.

Section 10. Notification of Construction of Disposal System, Industrial or Commercial Establishment, or New Outlet for Discharge of Wastes.

The Board shall be notified, on forms to be prescribed by the Board, by any person planning to construct, install, or operate any disposal system which is not in operation on the effective date of this Act, including any

future modification thereof; by any person planning to construct, install, or operate any industrial or commercial establishment not in existence on the effective date of this Act, including any future modification thereof, the operation of which either would cause an increase in the discharge of wastes into the waters of the State or would otherwise alter the physical, chemical, or biological properties of any waters of the State in any manner prohibited by this Act; or by any person planning to construct or use any new outlet for the discharge of any wastes into the waters of the State.

Section 11. Approval of Domestic Sewage Treatment Works by the Board

No person shall commence the construction of any domestic sewage treatment works unless the location therefor has been approved by the Board.

Section 12. Review:

(1) An appeal may be taken from any final order or other final determination of the Board, by any person who is or may be adversely affected thereby, or by the Attorney General on behalf of the State to the (District) Court of the State for the area affected or to the (District) Court of (seat of government). Within 30 days after receipt of a copy of the order, or other final determination, or after service of notice thereof by registered mail, the appellant or his attorney shall serve a notice of appeal on the Agency through its Executive Secretary provided that during such 30-day period the court may for good cause shown extend such time for not exceeding an additional 60 days. The notice of appeal shall refer to the action of the Board appealed from, shall specify the grounds of appeal, including both points of law and fact which are asserted or questioned by the appellant. A copy of the original notice of appeal with proof of service shall be filed by the appellant or his attorney with the clerk of the court within ten days of the service of the notice and thereupon the court shall have jurisdiction of the appeal. The service of such notice of appeal shall not act as a stay of

enforcement of the Board's final order or other final determination unless so ordered and directed by the court.

(2) The appellant and the Board shall in all cases be deemed the original parties to an appeal. The State through the Attorney General or any other person affected may become a party by intervention as in a civil action upon showing cause therefor. The Attorney General shall represent the Board, if requested, upon all such appeals unless he appeals or intervenes in behalf of the State. If the Attorney General or a member of his staff is not available to represent the Board in any particular proceeding, the Board is empowered to appoint special counsel for such proceeding. No bond or deposit for costs shall be required of the State or Board upon any such appeal or upon any subsequent appeal to the (Supreme Court or other court proceedings) pertaining to the matter.

(3) The appeal shall be heard and determined by the court upon the issues raised by the notice of appeal and the answer thereto according to the rules related to a trial in the nature of an appeal in equity of an administrative determination. All findings of fact by the Board are to be deemed final, unless it is shown that such findings were not supported by substantial evidence produced before the Board at the hearing. In any appeal or other proceeding involving any order, or other determination of the Board, the action of the Board shall be prima facie reasonable and valid and it shall be presumed that all requirements of the law pertaining to the taking thereof have been complied with. A copy of the proceedings before the Board shall be certified to the Court in connection with each appeal.

(4) A further appeal may be taken to the (Supreme Court of the State) in the same manner as appeals in equity are taken.

Section 13. Pollution of Water of State Unlawful: It shall be unlawful for any person to cause the pollution of any water of this State in violation

of or by failure to comply with any order of the Board, including orders fixing standards of water quality adopted pursuant to Section 5 of this Act.

Section 14. Damages: If any person is enjoined under the provisions of Section 15, such person enjoined shall be liable for damages due to any loss of fish or loss in fish propagation in any of the waters of the State where such violation or failure to comply occurs.

Section 15. Injunction: Whenever in the opinion of the Board, after proper notice and hearing, any person is engaging, continues to engage, or threatens to engage in any act or practice which constitutes or will constitute a violation of any order of the Board, the Board shall make application, through the Attorney General, to the (District Court) for an order enjoining such act or practice. The (District Court) after notice, as prescribed by the Court, to the parties in interest shall then proceed to hear the matter and if it finds that the order was lawful and reasonable, it may issue an injunction or a restraining order. In any action for injunction or restraining order brought pursuant to this section, any finding of the Board shall be prima facie evidence of the fact or facts found therein. An appeal or a writ of error may be taken from any such order of the court in the same manner as is provided in civil cases.

Section 16. Preservation of Rights: It is the purpose of this Act to provide additional and cumulative remedies to prevent, abate, and control the pollution of the waters of the State. Nothing contained herein shall be construed to abridge or alter rights of action or remedies in equity under the common law or statutory law, criminal or civil, nor shall any provisions of this Act, or any act done by virtue thereof, be construed as estopping the State or any municipality, or person as owner of riparian rights or otherwise, in the exercise of their rights in equity or under the common law or statutory law to suppress nuisances or to abate pollution.

Section 17. Grants for Construction of Waste Treatment Facilities

(1) The State of New Jersey is hereby authorized to make grants, as funds are available, to any county, municipality, or any combination of the same to assist said governmental units in the construction of those water pollution control projects as qualify for Federal aid and assistance under the provisions of the Federal Water Pollution Control Act, as amended.

(2) The State's contribution toward the construction of such projects shall be thirty per cent (30%) of the cost of that portion of said projects which qualify for Federal assistance or $1,200,000.00 whichever is less.

(3) The State Water Pollution Control Board shall be the agency for the administration of the funds granted by this State. The determination of these funds shall be done in direct conjunction with the administration of Federal funds granted for this purpose.

(4) The determination of the relative need, the priority of projects, and the standards of construction shall be consistent with the provisions of the Federal Water Pollution Control Act, as amended.

(5) The State Water Pollution Control Board is hereby empowered to adopt such rules and regulations and such procedures to be followed in applying for State grants as shall be necessary.

Section 18. Transfer of Responsibility for Administration of the Laws of the State Relating to Water Pollution

All responsibilities, rights, duties, powers, obligations, functions, etc. of the State Department of Health in connection with the administration of the laws relating to the pollution of the waters of this State found in (cite New Jersey statutes wherein these matters are found) are hereby transferred to the State Water Pollution Control Board. All responsibilities, rights, duties, powers, obligations, functions, etc. of the State Commissioner of Health in connection with the administration of the laws relating to

the pollution of the waters of this State found in (cite New Jersey statutes wherein these matters are found) are hereby transferred to the State Water Pollution Control Board.

Section 19. Conflicting Laws: Except as set forth in Section 18 with respect to the transfer of responsibility for the administration of the laws relating to the pollution of the waters of this State from the State Department of Health and the State Commissioner of Health to the State Water Pollution Control Board, nothing in this Act shall be construed as reappealing any of the substantive laws of the State relating to the pollution of waters thereof or any conservation laws, but shall be held and construed as auxiliary and supplementary thereto, except to the extent that the same are in direct conflict herewith.

Section 20. Severability: If any section, subsection, sentence, clause, phrase, or words of this Act is for any reason held to be unconstitutional, such decree shall not affect the validity of any remaining portion of this Act.

Section 21. Short Title: This Act may be cited as the New Jersey Water Pollution Control Act of 19___

Section 22. Effective Date: This Act shall take effect immediately.

REFERENCES

1. 10 Years of Cleansing New Jersey's Streams and Waters, A Summary Report of Activity 1948-1958, New Jersey State Department of Health.
2. Ricigliano, Anthony R., Wastewater Treatment and Disposal Practices in New Jersey. Where We Have Been and Where Do We Go From Here?, Presented at the New Jersey Water Pollution Control Association Annual Conference, April 20, 1966.
3. Fletcher, Alfred H., Unpublished statement on "Water Pollution Control Program and Needs for New Jersey," written to James H. McDermott, Department of Health, Education and Welfare, December 1965.
4. Segesser, Ernest R., New Jersey's Stream Pollution Control Program, Presented at the New Jersey Water Pollution Control Association Annual Conference, April 23, 1964.
5. Jacobi, Thomas R., et al, Staffing and Budgetary Guidelines for State Water Pollution Control agencies, Journal Water Pollution Control Federation, January 1965.
6. Chapter 34, Stream Pollution Control Program, New Jersey State Department of Health Program Plan, 1966.
7. Sixth Annual Survey of Municipal Waste Treatment Needs, Conference of State Sanitary Engineers, January 1, 1966.

APPENDIX I

CASE HISTORIES FROM THE STREAM POLLUTION CONTROL FILES

Boro of Sussex

7/25/60 - Order to "Prior to 11/1/60, ...cease discharge of improperly, inadequately and insufficiently treated sewage ... provide sewage treatment plant..."

10/10/62 - Letter: Shaw to Chavooshian, Director Division of State and Regional Planning - Requesting that Boro of Sussex Project be expedited.

6/19/63 - Superior Court of New Jersey, Chancery Division, Sussex County. An order: 180 days from 5/16/63 defendant will submit plans for approval.

11/14/63 - Application for approval of plants (approved 12/12/63).

12/26/63 - Order of Necessity issued.

9/25/64 - Memo: Mincher to Segesser. Bids received in May. Okay to close case?

10/2/64 - Memo: Segesser to Mincher. Okay to Close case.

9/22/65 - Letter: Earl J. Anderson to Fletcher. Requested correction of construction defects for construction grant.

9/24/65 - Memo: Segesser to Giallella. Plant placed in operation a "week or two ago." Plan inspection. (Postscript dated 9/27/65 on bottom of memo indicated PHS had requested correction of plant deficiencies).

9/28/65 - Letter: Segesser to Mayor. Advise when correction completed.

12/6/65 - Inspection report Health Department noting the following: Operator not available at the time of inspection, only the trainee was present. Chlorine tank empty. Pump leaks. Raw sewage had been by-passed around comminutor. Laboratory not used. Log Book showed only chlorine test. Trainee spends 44 hours per week between water treatment plant and sewage treatment plant.

1/15/66 - Letter: Operator to State - replied to explain deficiencies at time of inspection.

Boro of Little Silver

12/8/61 - Order issued to Board of Health requiring it to cause abatement of nuisance.

Order issued to Boro of Little Silver to cease pollution and make disposition of sewage approved by State Health Department. (File changes to Little Silver Regional Sewer Study Committee).

12/26/62 - Report by Regional Sewer Study Committee.

5/21/64 - Contract signed with consulting engineering firm, Manganaro, Martin and Lincoln, for feasibility study for six communities.

10/2/65 - News clipping: Sewer Study Completed - Northeast Monmouth County Regional Sewerage Authority formed. File indicates that construction of facilities is scheduled for completion by 7/1/68.

Town of Hammonton

4/25/61 - Order of necessity issued for improvements to sewage treatment plant.

8/7/63 - Memo: Harry Hughes to Segesser. Inspection shows plant to be causing poor stream conditions.

9/13/63 - Letter: Segesser to Mayor. Made recommendations for improving plant operation.

1/21/64 - Letter: Segesser to Mayor. Follow-up to previous letter from which no reply had been received.

5/7/64 - Plant inspection by State Health Department Engineers.

5/25/64 - Order issued to Hammonton to improve, add to, or alter sewage treatment plant to provide effluent approved by State Health Department by 8/31/64.

6/10/64 - Attorney for Hammonton requested order be set aside.

7/7/64 - Letter: Kandle to Hammonton Attorney. Refused to rescind order. Expects report from consulting engineers, Albright and Friel, by 7/20/64.

7/22/64 - Letter: State Attorney to Hammonton's Attorney. Suggested working out a settlement and consent order.

7/31/64 - Certification and notice of filing of record. Superior Court of New Jersey Appellate Division.

8/?/64 - Civil Action order disposing of Appellate's motion pursuant to RR 4:88-12/a. Stayed Order for 30 days from 8/10/64. Hearing scheduled for 10/20/64.

3/25/65 - Inspection by Health Department Engineers showed town proceeding at "reasonable" pace.

7/5/66 - Memo indicating plant had been revisited on 6/27/66. Additions and laterations were 5% complete.

Rahway Valley Sewerage Authority

1/22/63 - Orders issued to the Authority to cease discharge of improperly treated sewage by 1/27/64.

7/15/63 - Letter: reply from authority.

2/14/64 - Letter: reply from authority stating that 400 industries must be canvassed to determine character of wastes discharged.

10/20/64 - Letter: Authority submitted draft of industrial waste ordinance.

9/24/64 - Letter: Authority reported on progress to date, and submitted timetable for construction:

Complete Pilot Plant Operation - Spring 1966

Complete Preliminary Plans - Fall 1966

Complete Final Plans - Spring 1967

Submit Plans for approval and apply for Federal grant - Summer 1967

Start Construction - Fall 1967

Complete Facilities - Winter 1968

10/15/64 - Letter: Shaw to Authority. Time schedule is satisfactory.

5/27/65 - Letter: Authority reported on progress. Pilot Plant delivered 5/7/65, hope to have in operation by June 1965.

4/12/66 - Letter: Authority reported on progress. Industrial Waste Ordinance adopted. Second Pilot Plant authorized (Trickling Filter).

5/9/66 - Letter: Shaw to Authority. Commended efforts of authority.

Whippany Paperboard Company

4/10/47 - Permit approved for treatment plant.

9/16/54 - Order issued: Hanover Mill to cease polluting Whippany River. (No date specified for compliance).

Notice: Eden Mill to be assessed $100 penalty for each week of continuance of violation after serving of notice.

11/26/64 - Permit request (approved 1/27/55).

3/11/55 - Letter: Shaw to Company. Inquired as to why no pilot plant studies were underway at Eden Mill as part of agreement to provide waste treatment.

3/30/55 - Letter: Shaw to Company. No reply to previous letter. Advise referring matter to State Department of Law and Public Safety.

4/12/55 - Letter: Bergsma to Kaplan, Deputy Attorney General, requesting action to enforce compliance with order.

7/22/55 - Consent judgment to cease pollution by 4/15/56.

4/25/56 - Letter: Passaic Valley Water Commission to Company. Inspection of Facilities indicated that operation at all three plants was unsatisfactory.

12/10/56 - Memo: Shaw to Mincher. Request Attorney General to take action.

12/17/56 - Letter: Bergsma to Attorney General. Requested action. Mentioned orders to Hanover Mill and Eden Mill dated 9/17/54 to cease pollution.

2/4/57 - Application for approval of plans for additions to Eden Mill Treatment Plant received.

1/9/58 - Memo: Forman to Deputy Attorney General. Set Health Department timetable for construction of secondary treatment plants for Eden, Hanover, and Stony-Brook Mills.

2/1/58 - Preliminary Report

2/15/58 - Health Department Approval

6/15/58 - Submit First Plans

7/15/58 - Health Department Approval

10/15/58- Contracts Let

8/1/59 - Plants complete and in operation

4/1/58 - The Health Department reviewed preliminary plans for the Eden Mill.

6/28/58 - Letter: From Deputy Attorney General to Company. Set new time schedule.

Eden Mill

9/1/58 - Final Plans

9/15/58 - Health Department Approval

11/15/58- Let Contract

5/15/59 - Plant in operation

Hanover & Stony-Brook Mills

1/15/59 - Final Plans

4/1/59 - Let Contracts

10/1/59 - Plants in operation

10/22/58 -Letter: Passaic Valley Water Commission to Company. Eden Mill Operation to maintain 2 parts per million dissolved oxygen in stream. Threatened injunction to close mill.

11/4/58 - Application received by Health Department for plan approval at Eden Mill.

12/12/58 -Health Department approved plans.

11/5/59 - Inspection by Health Department. Plant 98% complete. Should be ready for trial operation by 12/1/59.

9/8/60 - Report on a conference held on 7/28/60 at the Attorney General's Office with Whippany officials to discuss the failure to provide secondary facilities at Stony-Brook and Hanover Mills and to provide adequate secondary treatment at the Eden Mill.
Failure of Eden Plant blamed on "inadequate design data prepared by consulting engineers."

9/22/60 - Eden Mill inspected by Health Department.

1/24/61 - Memo: Mincher to Attorney General. Summarizes report and mentions referral to Attorney General's Office each year for past three years.

4/18/61 - Letter: Deputy Attorney General to Company. Summarizes conference on 4/13/61 on plans and progress. Threatens legal action if time-table is not met.

7/26/61 - Inspection report by Health Department indicates that some work is being done but not sufficient.

9/20/61 - Letter: Kandle to Attorney General. Request tightening up compliance. Summarizes past history. Legal papers prepared for court action a year ago but never processed.

9/28/61 - Conference with company officials in Attorney General's Office. Officials agree to comply.

9/21/62 - Application received by the Health Department for addition to Eden Mill.

11/1/62 - Application approved.

7/22/63 - Inspection by Health Department. Plant is built and starting up.

10/?/63 - File indicates that plant also has an Air Pollution problem.

2/19/64 - Health Department approves sludge handling plant.

9/11/64 - Inspection by Health Department, indicates plant operation is poor. River is in unsatisfactory condition.

11/?/64 - Summary of entire Whippany case.

8/9/65 - Memo: Shaw to Kandle. Points out that Whippany contributes 49% of BOD in the Passaic. "Others pay penalty to accommodate Whippany." Also mentioned Passaic Valley Water Commission has not forced action at Whippany.

8/12/65 - Letter: Deputy Attorney General to Company - threatens suit.

8/17/65 - Letter: Kandle to Sills. Ask for case to go to court. "... the Executive Branch of the Government can no longer afford to attempt to act as a mediator in this problem in balancing the economy of the Whippany Paperboard Company against mandate of the laws and protection of public health."

3/17/66 - Complaint filed. Show cause order signed by July.

4/25/66 - Consent judgment signed by court.

5/2/66 - Letter: Company to State indicating that Butera and Perron, Consulting Engineers, had been retained.

6/21/66 - Inspection by Health Department showed company still polluting the stream.

7/6/66 - Stated the findings of the court.

7/21/66 - Civil action order limiting production at the mill to 4.7 mgd discharge.

Monsanto Chemical Company, Bridgeport, New Jersey

5/26/61 - Letter: Shaw to Monsanto. Approved outfall to Delaware River provided discharge meets Incodel Standards for Zone 3.

9/17/65 - Order issued to Monsanto to cease pollution prior to 12/31/65.

5/?/66 - Letter: Monsanto to Health Department. Indicates that Monsanto expects to complete acid treatment plant by 6/30/66.